(31)

No. 05-1120

Title:	Massachusetts, et al., Petitioners v. Environmental Protection Agency, et al.
Docketed:	March 7, 2006
Lower Ct:	United States Court of Appeals for the District of Columbia Circuit
Case Nos.:	(03-1361)
Decision Date:	July 15, 2005
Rehearing Denied:	December 2, 2005

Questions Presented

~~Date~~~	~~~~~~~~Proceedings and Orders~~~~~~~~~~~~~~~~~~~~~~~~
Mar 2 2006	Petition for a writ of certiorari filed. (Response due April 6, 2006)
Mar 29 2006	Order extending time to file response to petition to and including May 8, 2006, for all respondents.
Apr 5 2006	Brief of respondents Michigan, et al. in opposition filed.
May 5 2006	Order further extending time to file response to petition to and including May 15, 2006, for all respondents.
May 8 2006	Brief of respondent Utility Air Regulatory Group in opposition filed.
May 12 2006	Waiver of right of respondent CO2 Litigation Group to respond filed.
May 15 2006	Brief of Federal Respondent in opposition filed.
May 15 2006	Brief amici curiae of Alaska Inter-Tribal Council, et al. filed.
May 15 2006	Brief amici curiae of Climate Scientists David Battisti, et al. filed.
May 15 2006	Brief amici curiae of U.S. Conference of Mayors, et al. filed.
May 24 2006	Reply of petitioners Massachusetts, et al. filed. (Distributed)
May 30 2006	DISTRIBUTED for Conference of June 15, 2006.
Jun 19 2006	DISTRIBUTED for Conference of June 22, 2006.
Jun 26 2006	Petition GRANTED.
Jul 3 2006	Extension of time within which to file the joint appendix and petitioners' brief on the merits to and including August 31, 2006.
Aug 15 2006	Consent to the filing of amicus briefs in support of either party received from counsel for Vehicle Intervenor Coalition, Alliance of Automobile Manufacturers, et al.
Aug 22 2006	Consent to the filing of amicus briefs in support of either party received from counsel for respondent CO2 Litigation Group.
Aug 22 2006	Consent to the filing of amicus briefs in support of either party received from counsel for respondent Utility Air Regulatory Group
Aug 22 2006	Consent to the filing of amicus briefs in support of either party received from Intervenor-Respondents Michigan, et al.

Aug 22 2006 Consent to the filing of amicus briefs in support of either party received from counsel for the petitioners.

Aug 30 2006 Brief amici curiae of Climate Scientists David Battisti, et al. filed.

Aug 30 2006 Joint appendix filed.

Aug 31 2006 Brief amicus curiae of Entergy Corporation filed.

Aug 31 2006 Brief amici curiae of Alaska Inter-Tribal Council, et al. filed.

Aug 31 2006 Brief amici curiae of U.S. Conference of Mayors, et al. filed.

Aug 31 2006 Brief amicus curiae of Wildlife Conservation Interests filed.

Aug 31 2006 Brief amici curiae of Former EPA Administrators, Carol M. Browner, et al. filed.

Aug 31 2006 Brief amici curiae of North Coast Rivers Alliance, et al. filed.

Aug 31 2006 Brief amici curiae of Arizona, Iowa, Maryland, Minnesota, and Wisconsin filed.

Aug 31 2006 Brief amicus curiae of Aspen Skiing Company filed.

Aug 31 2006 Brief amicus curiae of Calpine Corporation filed.

Aug 31 2006 Brief of petitioners Massachusetts, et al. filed.

Aug 31 2006 Brief amicus curiae of Delaware filed.

Aug 31 2006 Brief amicus curiae of Ocean and Coastal Conservation Interests filed.

Aug 31 2006 Brief amici curiae of National Council of the Curches of Christ in the U.S.A., et al. filed.

Aug 31 2006 Brief amicus curiae of Madeline K. Albright filed.

Sep 27 2006 Extension of time within which to file respondents' brief or briefs on the merits to and including October 24, 2006.

Sep 29 2006 SET FOR ARGUMENT ON Wednesday, November 29,2006.

Sep 30 2006 Brief amicus curiae of Jerome B. Carr, Ph.D. filed.

Oct 4 2006 CIRCULATED.

Oct 12 2006 Record received from U.S.C.A. for the Disrict of Columbia Circuit. (1 box)

Oct 20 2006 Brief of respondents Michigan, et al. filed. (Distributed)

Oct 23 2006 Brief amici curiae of Climatologists and Scientists filed. (Distributed)

Oct 24 2006 Brief of respondents Alliance of Automobile Manufacturers, et al. filed. (Distributed)

Oct 24 2006 Brief of Federal Respondent filed. (Distributed)

Oct 24 2006 Brief amicus curiae of William H. Taft, IV filed. (Distributed).

Oct 24 2006 Brief of respondent Utility Air Regulatory Group filed. (Distributed)

Oct 24 2006 Brief amici curiae of Robert H. Bork, et al. filed. (Distributed)

Oct 24 2006 Brief amicus curiae of Union for Jobs and the Environment filed. (Distributed)

Oct 24 2006 Brief amici curiae of Cato Institute, et al. filed. (Distributed)

Oct 24 2006 Brief amicus curiae of Washington Legal Foundation filed. (Distributed)

Oct 24 2006	Brief amicus curiae of Pacific Legal Foundation filed. (Distributed)
Oct 24 2006	Brief of respondent CO2 Litigation Group filed. (Distributed).
Oct 24 2006	Brief amici curiae of William J. Baumol, et al. filed. (Distributed)
Oct 24 2006	Brief amici curiae of Ernest L. Daman, et al. filed. (Distributed)
Nov 3 2006	Application (06A473) to file a reply brief on the merits in excess of page limits, submitted to The Chief Justice.
Nov 7 2006	Application (06A473) to file in excess of page limits granted by The Chief Justice. The reply brief may not exceed 30 pages.
Nov 7 2006	Motion for divided argument filed by respondents Alliance of Automobile Manufacturers, et al.
Nov 8 2006	Nine copies of Petitioners' Standing Appendix, Vol.I and Vol. II, as filed in USCA for DC Circuit, received from counsel for the petitioners. (Distributed). Nine additional copies received 11/15/06.
Nov 9 2006	Response of respondents to Alliance of Automobile Manufacturers motion for divided argument.
Nov 13 2006	Motion for divided argument filed by respondents Alliance of Automobile Manufacturers, et al., DENIED.
Nov 13 2006	Record received from U.S. Dept.of Justice of the the Solicitor General. (1 box)
Nov 15 2006	Reply of petitioners Massachusetts, et al. filed. (Distributed).
Nov 29 2006	Argued. For petitioners: James R. Milkey, Assistant Attorney General, Boston, Mass. For respondents: Gregory G. Garre, Deputy Solicitor General, Department of Justice, Washington, D.C.

Supreme Court, U.S.
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NO. 05-1120

IN THE

Supreme Court of the United States

COMMONWEALTH OF MASSACHUSETTS, *et al.*
Petitioners,
v.
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,
Respondent.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

PETITION FOR WRIT OF CERTIORARI

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Parties to the Proceeding

Petitioners, who were petitioners in the appeals court, are the Commonwealth of Massachusetts, the states of California (acting by and through Governor Arnold Schwarzenegger, California Air Resources Board, and Attorney General Bill Lockyer), Connecticut, Illinois, Maine, New Jersey, New Mexico, New York, Oregon, Rhode Island, Vermont, and Washington, the District of Columbia, American Samoa Government, New York City, Mayor and City Council of Baltimore, Center for Biological Diversity, Center for Food Safety, Conservation Law Foundation, Environmental Advocates, Environmental Defense, Friends of the Earth, Greenpeace, International Center for Technology Assessment, National Environmental Trust, Natural Resources Defense Council, Sierra Club, Union of Concerned Scientists, and U.S. Public Interest Research Group.

Respondents are the Environmental Protection Agency (a respondent below); the Alliance of Automobile Manufacturers; National Automobile Dealers Association; Engine Manufacturers Association; Truck Manufacturers Association; CO_2 Litigation Group; Utility Air Regulatory Group, and the States of Michigan, Texas, Idaho, North Dakota, Utah, South Dakota, Alaska, Kansas, Nebraska, and Ohio (all intervenors below).

Corporate Disclosure Statement

The non-governmental petitioners are all nonprofit corporations or organizations. None of them has a parent corporation, and no publicly-held company has a 10% or greater ownership interest in any of these entities.

Questions Presented

Section 202(a)(1) of the Clean Air Act, 42 U.S.C. § 7521(a)(1), requires the Administrator of the Environmental Protection Agency ("EPA") to set emission standards for "any air pollutant" from motor vehicles or motor vehicle engines "which in his judgment cause[s], or contribute[s] to, air pollution which may reasonably be anticipated to endanger public health or welfare." The questions presented are:

1. Whether the EPA Administrator may decline to issue emission standards for motor vehicles based on policy considerations not enumerated in section 202(a)(1).

2. Whether the EPA Administrator has authority to regulate carbon dioxide and other air pollutants associated with climate change under section 202(a)(1).

PETITION FOR A WRIT OF CERTIORARI

Petitioners respectfully petition for a writ of certiorari to review the judgment of the United States Court of Appeals for the District of Columbia Circuit.

Opinions Below

The opinions of the court of appeals (App. 1-58) are reported at 415 F.3d 50 (D.C. Cir. 2005). The following additional orders or statements of the court of appeals are reproduced in the appendix: the order denying petitioners' petition for rehearing (App. 98), the order denying petitioners' petition for rehearing *en banc* (App. 94-95), and the statement by Judge Tatel, joined by Judge Rogers, dissenting from the denial of rehearing *en banc* (App. 96-97)(the last two documents are reported at 433 F.3d 66 (D.C. Cir. 2005)).

Jurisdiction

The judgment of the court of appeals was entered on August 15, 2005 (App. 99-100). On December 2, 2005, the court denied petitioners' timely petition for rehearing, and the court denied, by a 4-3 vote, petitioners' timely petition for rehearing *en banc*. This Court's jurisdiction is invoked under 28 U.S.C. § 1254(1).

Statutory and Regulatory Provisions

The relevant statutory provisions are sections 202(a)(1)-(a)(2), 302(g) and 302(h) of the Clean Air Act. 42 U.S.C.

§§ 7521(a)(1)-(a)(2), 7602(g), 7602(h). They are set forth *infra*, App. 101-02.

Statement

In 1999, several parties petitioned EPA to set regulatory standards for four air pollutants emitted by motor vehicles.[1] The petition asserted that, due to the effects on climate, the emission of these pollutants by motor vehicles "may reasonably be anticipated to endanger public health or welfare" within the meaning of section 202(a)(1) of the Clean Air Act. (App. 60-63.)

After public notice and comment, EPA decided not to set standards for the four air pollutants. 68 Fed.Reg. 52922 (September 8, 2003)(App. 59-93.) In explaining its decision, EPA never applied the statutory standard in section 202(a)(1); that is, the agency did *not* find that the scientific evidence regarding the pollutants' effects fell short of the "may reasonably be anticipated to endanger public health or welfare" standard. Rather, the agency simply ignored that standard and instead relied on various "policy" considerations not mentioned in section 202(a)(1). (App. 82-88.)

EPA also concluded that it had no authority to regulate air pollutants associated with climate change, regardless of the state of the scientific evidence. The agency concluded that the four substances covered by the petition are not "air pollutants" within the meaning of the Clean Air Act, even though it did not

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[1] The four air pollutants are carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons. (App. 60.)

dispute that the plain language of the Act supported regulation. According to EPA, this "facially broad grant of authority" was not enough to justify regulation after this Court's decision in *FDA v. Brown & Williamson Tobacco, Corp.*, 529 U.S. 120 (2000). (App. 68-79.)

Thirty parties, including sixteen states and other governmental bodies, filed petitions for review pursuant to 42 U.S.C. § 7607(b), challenging EPA's denial of the rulemaking petition. The D.C. Circuit denied these petitions on the merits. (App. 99-100.)

Judge Randolph wrote the lead opinion for the panel, with Judge Sentelle joining in his judgment. Judge Randolph concluded that EPA acted lawfully in declining to regulate air pollutants under section 202(a)(1) of the Clean Air Act based on "'policy' considerations" nowhere mentioned there. (App. 14.) EPA was not, he thought, required to base its decision on the factors actually enumerated in section 202(a)(1), but was instead justified in giving expression to "the sort of policy judgments Congress makes when it decides whether to enact legislation regulating a particular area." (App. 13.)

Judge Tatel dissented. He explained that "the Clean Air Act gives the Administrator no discretion to withhold regulation" under section 202(a)(1) for reasons unrelated to danger to public health or welfare. (App. 42-58.) He also concluded that EPA has authority to regulate air pollutants associated with climate change. (App. 31-42.)

By a vote of 4-3, the court denied *en banc* review. (App. 94-95.)

The ruling in this case is an extreme departure from this Court's precedents on statutory interpretation. EPA rewrote the Clean Air Act to justify its decision, and the lead opinion below approved the rewriting. To allow this decision to stand would be to sanction an enormous shift of power to administrative agencies, effectively letting them dismantle statutory regimes they simply do not like. The seriousness of the legal error here is compounded by the fact that it came out of the D.C. Circuit, the premier intermediate court for adjudicating issues of agency power and statutory interpretation, and the only court in the country – other than this Court – with the authority to review the EPA actions presented here. 42 U.S.C. § 7607(b).

Equally imperative is this Court's review of EPA's conclusion that it has no authority to regulate air pollutants associated with climate change. EPA's legal judgment rested on an obvious over-reading of this Court's decision in *FDA v. Brown & Williamson, supra*. *Brown & Williamson* is not a blank check to avoid regulating in politically controversial settings. The Court should grant certiorari to correct this misunderstanding of its decision.

Petitioners seek this Court's review in order to slip the case back into its proper legal joint, where an assessment of the scientific evidence of danger to public health and welfare – and not "'policy' considerations" nowhere mentioned in section 202(a)(1) – are the determining factor in deciding whether to regulate air pollutants associated with climate change.

A. Statutory Background

Section 202 of the Clean Air Act, 42 U.S.C. § 7521, creates, in broad terms, a two-step process for regulating air pollution from motor vehicles. Section 202(a)(1) creates the "trigger" for regulatory action, and the remainder of section 202(a) describes how EPA should set and implement the standards that have been triggered.

At the first step in the process, section 202(a)(1) directs the EPA Administrator's attention to the question whether "any air pollutant" from new motor vehicles or new motor vehicle engines "cause[s], or contribute[s] to, air pollution which may reasonably be anticipated to endanger public health or welfare." If "in his judgment" (42 U.S.C. § 7521(a)(1)), this so-called "endangerment standard" is met, then the obligation to regulate is triggered.

Before the 1977 Amendments to the Clean Air Act, section 202(a)(1) required the Administrator to regulate air pollution from motor vehicles that "endangers the public health or welfare." Pub. L. No. 91-604, § 6, 84 Stat. 1690 (1970). In 1976, the D.C. Circuit interpreted the "endangers" language as permitting "regulatory action to prevent harm, even if the regulator is less than certain that harm is otherwise inevitable." *Ethyl Corp. v. EPA*, 541 F.2d 1, 15 (D.C. Cir. 1976)(*en banc*). In 1977, Congress amended section 202(a)(1) and the other standard-setting provisions in the Clean Air Act to require regulation where endangerment "may reasonably be anticipated." Pub. L. No. 95-95, § 401, 91 Stat. 791 (1977).

Congress expressly intended these additional words to underscore the obligation to assess risks and to take action even under conditions of uncertainty. H.R. Rep. No. 95-294, at 49-51.

The "air pollutant[s]" subject to regulation under section 202 are defined thus:

> any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air. . ..

Clean Air Act § 302(g), 42 U.S.C. § 7602(g). "Welfare," endangerment of which triggers the regulatory obligation under section 202(a)(1), is defined in this way:

> All language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and **climate**, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants.

Clean Air Act § 302(h), 42 U.S.C. § 7602(h)(emphasis added). Thus, a substance emitted into the air which endangers climate is, under the express terms of the relevant statutory provisions, subject to regulation under section 202.

The second step in regulating air pollution from motor

vehicles involves deciding exactly what the regulatory standard for the pollutant(s) in question should be, and when the standard should be effective and for how long. The pertinent remainder of section 202(a) is concerned with these kinds of questions. At this stage of regulatory decisionmaking, factors beyond "endangerment" come into play. Section 202(a)(2) provides that standards set under section 202(a)(1) "shall take effect after such period as the Administrator finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period." Section 202(a)(4)(A) further requires the Administrator to assure that there will not be "an unreasonable risk to public health, welfare, or safety" due to the "operation or function" of an emission control "device, system, or element of design." 42 U.S.C. § 7521(a)(4)(A).

Thus section 202 creates two very different steps in the process of setting standards for air pollution from motor vehicles. The first step is almost pristine in its simplicity: the Administrator is required to regulate when, "in his judgment," motor vehicles cause or contribute to air pollution which "may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7521(a)(1). The second step – setting technologically and economically feasible standards once endangerment is found – involves an assessment and balancing of an assortment of other factors.

This kind of two-step process is typical of regulation under the Clean Air Act. In setting the national ambient air quality standards ("NAAQS"), for example, EPA first assesses the harmfulness of an air pollutant to human health and welfare,

without regard to economic costs or technological feasibility, and then implements the harm-based NAAQS while taking into account costs, feasibility, and other factors. *See Whitman v. American Trucking Ass'ns*, 531 U.S. 457 (2001). Likewise, section 111 of the Act requires EPA to regulate emissions from various kinds of stationary sources by first listing a "category" of sources when "in his judgment it causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare," and then establishing performance standards for that category after the agency has considered a variety of other relevant factors. 42 U.S.C. § 7411(b)(1).

B. EPA's Decision

In September 2003, EPA, after notice and comment, issued its decision refusing to set motor vehicle standards for substances associated with climate change. (App. 59-93.) EPA's decision rested on the two legal conclusions at issue here.

As one ground for its decision, EPA stated that it "disagree[d] with the regulatory approach urged by petitioners" (App. 82) and thus, in light of various "considerations" discussed by the agency, it would decline to use any authority it had under the statute to regulate the four substances. (App. 82-88.) In simple terms, EPA's legal position was that it could reject the regulatory approach embodied in section 202(a)(1) of the Clean Air Act – in light of "considerations" not found in that provision.

The "considerations" EPA thought sufficient to justify

rejecting the regulatory approach of section 202(a)(1) of the Clean Air Act included a variety of factors. First, EPA cited the presence of various scientific uncertainties. (App. 83-85.) At no point, however, did EPA apply the statutory endangerment standard to determine whether the scientific evidence was strong enough to support regulation despite the presence of these uncertainties.

Second, EPA concluded that regulation under section 202(a)(1) was not warranted because it would "result in an inefficient, piecemeal approach to addressing the climate change issue," since motor vehicles are only one of many sources of air pollutants associated with climate change. (App. 85-86.)

Third, EPA asserted that "[u]nilateral EPA regulation" in this area could "weaken U.S. efforts to persuade key developing countries to reduce the [greenhouse gas] intensity of their economies." (App. 86.) EPA concluded therefore that regulation of air pollutants associated with climate change "raises important foreign policy issues," which it was "the President's prerogative" to address. (App. 86.)

EPA rounded out its explanation of its decision with a boilerplate recitation of the administration's alternative approach to climate change, which relies on research, voluntary measures by industry, and public-private partnerships. (App. 88-92.)

As a separate ground for its decision, EPA asserted that it simply has no legal authority to regulate air pollutants associated with climate change. In so saying, EPA reversed its

prior legal position, provided to Congress on multiple occasions, that the Clean Air Act does provide that authority.[2] (App. 68-79.)

C. The Court of Appeals' Decision

Judge Randolph authored the Court's lead opinion, as well as its judgment. Without resolving whether EPA had statutory authority, Judge Randolph voted to uphold the agency's decision based on the agency's "'policy' considerations." (App. 13-15.) He noted that these considerations included, but were not limited to, the existence of uncertainty, saying "[i]t is . . . not accurate to say . . . that the EPA Administrator's refusal to regulate rested entirely on scientific uncertainty. . .." (App. 14-15.) Judge Randolph concluded that section 202(a)(1) "does not require the Administrator to exercise his discretion solely on the basis of his assessment of scientific evidence." (App. 13.) He found that EPA's other policy considerations – concerns about piecemeal regulation, worries about effects on international treaty negotiations and technological feasibility, and a preference for alternative voluntary approaches – were all factors that the agency was entitled to consider in coming to a

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[2] *See* Testimony of Gary S. Guzy, EPA, General Counsel, Joint Hearing of the House Subcomm. on Nat'l. Econ. Growth, Natural Res. and Regulatory Affairs of the Comm. on Gov't Reform and the House Subcomm. on Energy and Env't of the Comm. on Sci. (Oct. 6, 1999); Letter from Gary S. Guzy, EPA General Counsel, to Rep. David M. McIntosh, Chairman, Subcommittee on National Economic Growth, Natural Resources, and Regulatory Affairs, House Committee on Government Reform (July 12, 2000). *See also* App. 68-69 (rescinding EPA's earlier conclusions).

decision. (App. 13-15.) In fact, Judge Randolph concluded that under section 202(a)(1), EPA "could take into account "the sort of policy judgments Congress makes when it decides whether to enact legislation regulating a particular area." (App. 13.)

Judge Sentelle dissented because of his view that the Court lacked jurisdiction. He nevertheless joined in Judge Randolph's judgment denying the petitions for review on the merits. (App. 16-20.)

Judge Tatel would have granted the petition for review. In a dissenting opinion, Judge Tatel detailed how the Court's jurisdiction was not in doubt, how EPA plainly had statutory authority to regulate air pollutants associated with climage change, and how the agency's decision not to regulate these pollutants rested on policy considerations that fell outside the range of discretion delegated by Congress. (App. 21-58.)

D. The Court of Appeals' Denial of Rehearing and Rehearing *En Banc*.

By a 2-1 vote, the panel denied rehearing (App. 98), and by a 4-3 vote, the full Court denied *en banc* review. (App. 94-95.) Judge Tatel wrote an opinion, joined by Judge Rogers, dissenting from the denial of rehearing *en banc*. (App. 96-97.) Judge Tatel stated that he would have granted *en banc* review because:

> the case involves the threat of global warming and its attendant consequences for human health and the environment, and therefore presents an issue of exceptional importance. . . . Indeed, if global warming

> is not a matter of exceptional importance, then those words have no meaning.

(internal cite omitted)(App. 96).

Reasons for Granting the Petition

Like Melville's scrivener, Bartleby, EPA may as well have explained its resistance to fulfilling its statutory obligations under the Clean Air Act with the simple reply: "I would prefer not to." And, like Bartleby's flummoxed boss, the court below let this answer suffice.

This was a significant mistake. The provision under which EPA made its decision, section 202(a)(1) of the Clean Air Act, is crystalline: EPA is to decide whether to regulate an air pollutant emitted by motor vehicles on the basis of its judgment whether public health or welfare may reasonably be anticipated to be endangered by the pollution. Section 202(a)(1) says not a word about technological judgments, international treaty negotiations, private-public partnerships, or any other of the myriad factors EPA cited in deciding not to regulate here.

The unidimensional simplicity of section 202(a)(1) was no accident, as the neighboring provisions of section 202 make clear. These adjacent provisions detail the "policy" factors for EPA to consider when setting and implementing the standards triggered by section 202(a)(1). But these factors are nowhere to be found in the "endangerment" standard of section 202(a)(1). By allowing EPA to import into section 202(a)(1) policy factors not enumerated there, the appeals court has sanctioned a large-scale and unwholesome shift of power from

Congress (which, after all, wrote section 202(a)(1)) to the agency. The court's decision is seriously out of step with this Court's precedents counseling judicial modesty in the face of pellucid statutory language.

The other ground on which EPA rested its decision was that it lacked any statutory authority to regulate air pollutants associated with climate change. EPA's claim is contradicted by the plain language of the Clean Air Act. Because EPA's interpretation of the Act is based almost entirely on its reading of *Brown & Williamson*, 529 U.S. 120, the Court's review of this question is necessary to prevent the agency from continuing to claim that a decision of this Court prevents it from taking regulatory action to address climate change.

I. IN UPHOLDING EPA'S DECISION BASED ON FACTORS NOT MENTIONED IN THE RELEVANT STATUTORY PROVISION, THE LEAD OPINION BELOW DRAMATICALLY DEPARTED FROM THIS COURT'S PRECEDENTS.

This Court has made plain that the judicial role in statutory interpretation begins, and often ends, with the statute's language. *See, e.g., Consumer Product Safety Comm'n v. GTE Sylvania*, 447 U.S. 102, 108 (1980)(speaking for a unanimous Court, Justice Rehnquist observed: "[T]he starting point for interpreting a statute is the language of the statute itself. Absent a clearly expressed legislative intention to the contrary, that language must ordinarily be regarded as conclusive."). In trying to discern a statute's meaning, the Court has often found it helpful to compare the language of the statutory provision in question with language found elsewhere in the statute: "it is a

general principle of statutory construction that when one statutory section includes particular language that is omitted in another section of the same Act, it is presumed that Congress acted intentionally and purposely." *Barnhardt v. Sigmund Coal*, 534 U.S. 438, 440-41 (2002), *citing Russello v. United States*, 464 U.S. 16, 23 (1983).

Notably, these principles have been decisive in shaping this Court's jurisprudence under the Clean Air Act. Where Congress has listed certain factors as relevant in one part of the Act, and not in another, this Court has consistently respected this legislative choice. *See Whitman v. American Trucking Ass'ns*, 531 U.S. 457, 464-71 (2001); *General Motors Corp. v. United States*, 496 U.S. 530, 538, 541 (1990); *Union Elec. Co. v. EPA*, 427 U.S. 246, 257 (1976).

In this case, the lead opinion in the D.C. Circuit failed to follow this well-worn path. Section 202(a)(1) includes only endangerment to public health or welfare as the criterion in deciding whether to regulate air pollution from motor vehicles. Once the threshold of endangerment has been crossed, other factors such as technological feasibility, cost, and lead-time concerns are relevant when establishing the standards under the other provisions of section 202. *See supra*, at 5. Nevertheless, the lead opinion allowed EPA's decision to stand based on reference to "'policy' considerations" not mentioned in section 202(a)(1).

The one factor mentioned by EPA that has anything to do with the endangerment standard of section 202(a)(1) is scientific uncertainty. But even as to this factor, EPA failed to

apply the statutory standard. Under this standard, the mere existence of uncertainty is not a bar to regulation or an excuse for inaction. Rather, the endangerment standard authorizes "regulatory action to prevent harm, even if the regulator is less than certain that harm is otherwise inevitable." *Ethyl Corp. v. EPA*, 541 F.2d at 25. Indeed, in 1977, Congress amended section 202(a)(1) "to support the views expressed" in *Ethyl*. H.R. Rep. 95-294, at 49. Specifically, "[i]n order to emphasize the precautionary or preventive purpose of the act (and, therefore, the Administrator's duty to assess risks rather than wait for proof of actual harm), the committee not only retained the concept of endangerment to health; the committee also added the words 'may reasonably be anticipated.'" *Id.*, at 51.

Moreover, as the lead opinion expressly found, EPA did not rely solely on uncertainty in coming to its decision. (App. 14-15.) Instead, it relied on uncertainty in combination with the other factors clearly having no relevance to the endangerment finding of section 202(a)(1). (App. 82-88.) The consideration of statutorily excluded factors taints EPA's entire decision; we cannot know what EPA would have done if it had exercised its judgment in light of the only legally relevant consideration – endangerment of public health or welfare – and courts cannot supply an answer EPA itself did not give. *See, e.g., SEC v. Chenery, Corp.*, 318 U.S. 80, 93-95 (1943).

An administrative agency simply cannot rest its decisions on factors which Congress has not intended it to consider. *Motor Vehicle Mfrs. Ass'n of U.S. v. State Farm Mut. Auto Ins. Co.*, 463 U.S. 29, 43 (1983). Section 202(a)(1) entrusts to the Administrator's "judgment" the threshold question of whether

endangerment is occurring. But, as Judge Tatel observed, the statute provides the Administrator "no discretion either to base that judgment on reasons unrelated to this standard or to withhold judgment for such reasons." (App. 46.) By relying on these extra-statutory "policy considerations" in deciding not to regulate:

> In effect, EPA has transformed the limited discretion given to the Administrator under section 202 -- the discretion to determine whether or not an air pollutant causes or contributes to pollution which may reasonably be anticipated to endanger public health or welfare -- into the discretion to withhold regulation because it thinks such regulation bad policy. But Congress did not give EPA this broader authority, and the agency may not usurp it.

(App. 45)(Tatel, J. dissenting).

II. EPA MISREAD *FDA v. BROWN & WILLIAMSON TOBACCO CORP.* IN CONCLUDING THAT IT LACKS AUTHORITY TO REGULATE AIR POLLUTANTS ASSOCIATED WITH CLIMATE CHANGE.

EPA's contention that it lacks statutory authority to regulate air pollutants associated with climate change is belied by the plain language of the Clean Air Act.[3] The agency based its

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[3] Because the court of appeals upheld EPA on the merits by denying the petition for review, this Court may address the scope of EPA's authority even though this question – fully briefed below – was not actually reached by the court. *Cf. Pollard v. United States*, 352 U.S. 354, 359 (continued...)

misinterpretation on a misreading of this Court's decision in *Brown & Williamson*, 529 U.S. 120. Unless this Court accepts review, EPA will continue to justify its inaction based on its reading of the Court's precedent.

Section 202(a)(1) of the Act requires the EPA Administrator to promulgate motor vehicle emissions standards for "any air pollutant" that he determines "may reasonably be anticipated to endanger public health or welfare." By using the word "any," Congress demonstrated its intent to provide EPA expansive authority, not to limit the agency's jurisdiction to only certain kinds of air pollutants. *See Dept. of HUD v. Rucker*, 535 U.S. 125, 131 (2002)("the word 'any' has an expansive meaning, that is, 'one or some indiscriminately of whatever kind'")(internal quotation omitted). As noted above (*supra* at 6), section 302(g) of the Act defines "air pollutant" comprehensively, and each of the four pollutants associated with climate change and emitted by motor vehicles is plainly covered by this definition. As the EPA General Counsel recognized in 1998, carbon dioxide, the most prevalent of these pollutants, is a "physical [and] chemical . . . substance which is emitted into . . . the ambient air."[4] Nowhere in its denial of the rulemaking petition did the agency attempt to challenge that self-evident conclusion.

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[3] (...continued)
(1957)(reaching the merits even of arguments not briefed below).

[4] Memorandum of Jonathan Z. Cannon, General Counsel, to Carol M. Browner, Administrator, *EPA's Authority to Regulate Pollutants Emitted by Electric Power Generation Sources* (April 10, 1998), p. 2.

EPA nevertheless maintains that there is something special about the nature of the harm that these substances cause that negates the agency's jurisdiction over them. (App. 71-73.) But in fact they cause the kinds of harm that are expressly set forth in section 302(h), which states that effects on "welfare" include effects on "climate." By including effects on "climate" within the "welfare" effects that the agency is charged with preventing, Congress has expressly conferred authority to regulate air pollutants that adversely affect "climate."[5]

The language of section 202(a)(1) is so plain that in the court of appeals EPA made not a single argument that the statutory text supported its position (or even that the words were ambiguous). Instead, the agency belittled the very idea of textual analysis, referring to plain language arguments as "narrow semantic analyses." EPA brief below at 55.

In lieu of examining the words that Congress chose, EPA argued that interpreting the Act as providing regulatory authority would have such sweeping impacts that Congress could not have intended this result absent lock tight evidence of specific intent. (App. 75-79) EPA based this argument almost

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[5] In addition to direct effects on "climate," climate change endangers "welfare" through many of the other effects enumerated in section 302(h) [42 U.S.C. § 7602(h)], including effects on "weather" (*e.g.*, increased storm activity and changes in rainfall or drought patterns), "damage to and deterioration of property," and "effects on crops." Further, emissions that cause climate change endanger "public health" in several ways, *e.g.*, by raising air temperature so as to increase the severity of health-damaging smog episodes. Intergovernmental Panel on Climate Change, *Third Assessment Report* (2001), Working Group II Technical Survey, at 43.

entirely on a single case, *Brown & Williamson*, 529 U.S. 120. But as Judge Tatel concluded, "EPA's reliance on *Brown & Williamson* is misplaced." (App. 38.) In fact, the legal principles of that case undercut, rather than support, EPA's claim that it lacks authority.

Brown & Williamson concluded that the Food, Drug and Cosmetic Act (FDCA) was unambiguous and that Congress had "directly spoken to the issue here and precluded the FDA's jurisdiction to regulate tobacco products." 529 U.S. at 133. Central to the Court's analysis was the fact that the FDA had for more than sixty years held the position that it had no authority to regulate tobacco products under the FDCA and that, over this period, Congress had repeatedly enacted tobacco-specific legislation that ratified the FDA's longstanding interpretation. The Court concluded that if tobacco products were subject to the FDCA, then the FDA would have no other option than to ban them, a drastic result that was contradicted by the tobacco-specific enactments that were all premised on tobacco's remaining legally for sale. The Court thus held that the FDA's reinterpretation of its authority could not stand in the face of these enactments. *See* 529 U.S. at 154-57.

The *Brown & Williamson* analogy that EPA attempts to draw breaks down under even a cursory examination. Before the decision here under review, EPA had previously maintained that it possessed authority to regulate air pollutants associated with climate change. EPA took the opposite view for the first time in this decision. Further, Congress has never – before or after this decision – enacted any legislation premised on EPA's "no authority" interpretation. Moreover, in sharp contrast to the

complete ban on tobacco products that would have resulted from regulating cigarettes, regulating air pollutants associated with climate change under section 202(a)(1) of the Clean Air Act would result only in EPA's setting technologically and economically feasible standards – something the agency has done for decades for other tailpipe pollutants.[6]

While attempting to clothe itself in *Brown & Williamson*, EPA has simply not shown that its having authority to regulate air pollutants associated with climate change would "contradict" other Congressional enactments. While the agency has cited various enactments that call for "non-regulatory responses" to global warming such as further studies,[7] each of these statutes is fully compatible with EPA having underlying authority to regulate air pollutants associated with climate change. In fact, one of the statutes that EPA cites makes this point expressly:

> Nothing in this subchapter shall be construed, interpreted, or applied to preclude or delay the planning

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[6] Section 202 includes protections designed to prevent severe economic impacts from occurring. *See* 42 U.S.C. § 7521(a)(2)(new emission standards are to "take effect after such period as the Administrator finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period.").

[7] *See* National Climate Program Act of 1978, Pub. L. No. 95-367, 92 Stat. 601; Global Climate Protection Act of 1987, Pub. L. No. 100-204, §§ 1101-1106, 101 Stat. 1331, 1407-09; Global Change Research Act of 1990, Pub. L. No. 101-606, 104 Stat. 3096; Energy Policy Act of 1992, Pub. L. No. 102-486, 106 Stat. 2776.

> or implementation of any Federal action designed, in whole or in part, to address the threats of stratospheric ozone depletion or global climate change.

Global Climate Change Research Act of 1990, 15 U.S.C. § 2938(c).

Nor does the Energy Policy and Conservation Act ("EPCA"), 49 U.S.C. §§ 32901-32919, the statute authorizing the Secretary of Transportation to set automobile fuel economy standards, provide EPA any help for disclaiming its authority under the Clean Air Act. Not only is there nothing in EPCA that limits EPA's authority to set motor vehicle emission standards for air pollutants associated with climate change, but EPCA in fact expressly recognizes that motor vehicle standards set by other agencies may affect fuel economy. 49 U.S.C. § 32902(f). Congress has simply not erected any bar to the agency's making use of the authority that the plain and unambiguous language of § 202(a)(1) provides.

The real import of *Brown & Williamson* to this case is quite different from the one EPA has attempted to draw. Fundamentally, *Brown & Williamson* stands for the proposition that an agency cannot stretch its authority to usurp power that a statute does not give it, no matter how compelling the agency feels is the need to respond to a social or economic problem. By the same token, an agency cannot shrink its authority and deny power that a statute plainly does give it. That is

Congress's decision alone.[8]

III. THE ISSUES RAISED BY THIS CASE MERIT THIS COURT'S REVIEW BECAUSE THEY GO TO THE HEART OF EPA'S STATUTORY RESPONSIBILITIES TO ADDRESS THE MOST PRESSING ENVIRONMENTAL CHALLENGE OF OUR TIME.

The statutory questions presented by this case are themselves important federal questions that have not been, but should be, settled by this Court. This Court's review is warranted because the answers to these questions offered by the court of appeals (and EPA) flout the Court's guidance on statutory interpretation and administrative law. But the Court's review is also merited by the important real world context in which the questions arise. Simply put, this case goes to the heart of EPA's statutory responsibilities to deal with the most pressing environmental problem of our time.

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[8] EPA's argument that there cannot be regulatory authority without specific intent is curious for two reasons beyond its misreading of *Brown & Williamson*. First, Congress has in fact been quite specific in demonstrating its intent that effects on "climate" fall within the scope of the Act. Second, even if this were not the case, this Court has consistently held that an agency can regulate a new subject matter in the absence of proof of specific congressional intent directed at the particular problem. *See, e.g., Diamond v. Chakrabarty*, 447 U.S. 303, 314-15 (1980) (rejecting argument that because genetic technology was unforseen when broad patent statute was enacted, micro-organisms could not be patented until Congress expressly authorized it). As this Court observed in 2001, "the fact that a statute can be applied in situations not expressly anticipated by Congress does not demonstrate ambiguity . . .. It demonstrates breadth." *PGA Tour, Inc. v. Martin*, 532 U.S. 661, 689 (2001)(internal citation and quotation omitted).

There can be no reasonable debate about the exceptional importance of the problem of climate change. In fact, EPA conceded the need to address the problem in the proceedings below: "We agree with the President that 'we must address the issue of global climate change' (February 14, 2002)." (App. 82)(*quoting* President George W. Bush). *See also* March 3, 2001 Statement of then-EPA Administrator Christine Todd Whitman ("If we fail to take the steps necessary to address the very real concern of global climate change, we put our people, our economies, and our way of life at risk.").[9] Indeed, the very National Academy of Sciences report on which EPA claimed to rely opens with the statement: "Greenhouse gases are accumulating in Earth's atmosphere as a result of human activities, causing surface air temperatures and subsurface ocean temperatures to rise." National Research Council, *Climate Change Science: An Analysis of Some Key Questions* (2001), at 1.[10]

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[9] Remarks delivered at the G8 Environmental Ministerial Meeting Working Session on Climate Change, Trieste, Italy (March 3, 2001), available at: http://yosemite1.epa.gov/administrator/speeches.nsf/b1ab9f485b098972852562e7004dc686/36bca0e3a69a0d8b85256a41005d2e63?OpenDocument.

[10] The scientific basis for concern is well documented in the administrative record, including through various official governmental reports. A prime example is the 2002 report that the United States submitted pursuant to its reporting obligations under the 1992 climate change treaty signed by President George H.W. Bush and ratified by the Senate. *U.S. Climate Action Report 2002* (CAR). The report was produced by several federal agencies

(continued...)

Given that the D.C. Circuit has exclusive jurisdiction to review EPA's national regulatory decisions, there is no good reason to put off review in order to let the issues presented percolate through the lower courts. At the same time, there are important reasons for this Court to accept review now. The court of appeals' ruling effectively puts motor vehicle sources, which account for over a quarter of U.S. greenhouse gas emissions, beyond EPA's regulatory reach for the indefinite future. And without this Court's review, EPA will continue to disclaim its statutory role in evaluating the dangers posed by such pollutants from any source. In fact, EPA only recently refused to even consider greenhouse gas emissions limits on new power plants, stating that it "does not presently have the authority to set [New Source Performance Standards] to regulate CO_2 or other greenhouse gases that contribute to global climate change." 71 Fed. Reg. 9869/3 (February 27, 2006). This Court's review is warranted to give the issues raised by this case the careful hearing they deserve.

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[12] (...continued)
with EPA taking the lead. In a portion of the report drafted by EPA, the report specifically identified numerous adverse effects that the accumulation of greenhouse gas emissions is likely or very likely to cause. These include: in the Northeast, Southeast, and Midwest, "[r]ising temperatures are likely to increase the heat index dramatically in the summer;" in the Appalachians, "[w]armer and moister air is likely to lead to more intense rainfall events in mountainous areas, increasing the potential for flash floods;" in the Great Lakes, "[l]ake levels are likely to decline due to increased warm-season evaporation, leading to reduced water supply and degraded water quality;" and coastal communities "are more likely to suffer damage from the increasing intensity of storms." CAR at 110.

Meanwhile, delay has serious potential consequences. Given that air pollutants associated with climate change are accumulating in the atmosphere at an alarming rate, the window of opportunity in which we can mitigate the dangers posed by climate change is rapidly closing. *See, e.g.*, Intergovernmental Panel on Climate Change, *Third Assessment Report* (2001), Synthesis Report, Summary for Policymakers, at 19, 21 (explaining how significant reductions in greenhouse gas emissions are needed in the short term to stabilize atmospheric concentrations, and how a delay in implementing emission reductions will result in increased extent and magnitude of adverse impacts). As the heads of the national academies of science of eleven different countries, including the United States, recently stated: "Failure to implement significant reductions in net greenhouse gas emissions now, will make the job much harder in the future." Joint Science Academies' Statement: Global Response to Climate Change (July 2005)(footnotes omitted). Available at: http://nationalacademies.org/onpi/06072005.pdf.

Seven years have already passed since EPA received the petition for rulemaking that spawned this litigation. In reliance on incorrect legal analyses and *ultra vires* policy rationales, EPA has squandered nearly a decade. This delay, itself, has the effect of compounding the problem by narrowing our ability to mitigate it. As the EPA Administrator who served under Presidents Nixon and Ford recently stated: "[t]o sit back and push this away and deal with it sometime down the road is dishonest and self-destructive." Statement of Russell E. Train. *The New York Times*, "6 Ex-Chiefs of EPA Urge Action on

Greenhouse Gases" (January 19, 2006), at 19. If this Court declines to resolve the issues presented now, we will see the cycle of delay repeat itself. Waiting for the issues to arise in other contexts would likely drastically limit our ability to address the growing crisis.

Thus, there are critically important reasons not only for this Court to resolve the questions presented, but also to reach them in the current case.

Conclusion

The petition for a writ of certiorari should be granted.

Respectfully submitted,

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March 2, 2006

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United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

Argued April 8, 2005

Decided July 15, 2005
Reissued September 13, 2005

No. 03-1361

COMMONWEALTH OF MASSACHUSETTS, ET AL.,
PETITIONERS

v.

ENVIRONMENTAL PROTECTION AGENCY,
RESPONDENT

ALLIANCE OF AUTOMOBILE MANUFACTURERS, ET AL.,
INTERVENORS

Consolidated with Nos.
03-1362, 03-1363, 03-1364, 03-1365, 03-1366, 03-1367,
03-1368

On Petitions for Review of an Order of the
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Rebecca L. Bernard and *Jeremy Kyle Kinner* were on the brief of *amici curiae* Indigenous Environmental Network, REDOIL and Physicians for Social Responsibility.

Jeffrey Bossert Clark, Deputy Assistant Attorney General, U.S. Department of Justice, argued the cause for respondent. With him on the brief were *Thomas L. Sansonetti*, Assistant Attorney General, *Jon M. Lipshultz*, Attorney, *Ann R. Klee*, General Counsel, U.S. Environmental Protection Agency, and *John T. Hannon* and *Nancy Ketcham-Colwill*, Counsel.

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Daniel J. Popeo, Paul D. Kamenar, Peter Glaser, and *Douglas A. Henderson* were on the brief of amicus curiae Washington Legal Foundation in support of respondent.

Edward W. Warren and *Eric B. Wolff* were on the brief of amicus curiae John D. Dingell (D-Michgan) in support of denial of petitions for review.

Before: SENTELLE, RANDOLPH, and TATEL, *Circuit Judges*.

Judgment of the Court filed by *Circuit Judge* RANDOLPH.

Opinion filed by *Circuit Judge* RANDOLPH.

Opinion dissenting in part and concurring in the judgment filed by *Circuit Judge* SENTELLE.

Opinion dissenting in Nos. 03-1361, 03-1362, 03-1363, and 03-1364 filed by *Circuit Judge* TATEL.

RANDOLPH, *Circuit Judge*: Petitioners are twelve states, three cities, an American territory, and numerous environmental organizations. They are opposed by the Environmental Protection Agency as respondent, and ten states and several trade associations as intervenors. The controversy is about EPA's denial of a petition asking it to regulate carbon dioxide (CO_2) and other greenhouse gas emissions from new motor

vehicles under § 202(a)(1) of the Clean Air Act, 42 U.S.C. § 7521(a)(1). EPA concluded that it did not have statutory authority to regulate greenhouse gas emissions from motor vehicles and that, even if it did, it would not exercise the authority at this time. 68 Fed. Reg. 52,922 (Sept. 8, 2003).

I.

We should say a few words about our jurisdiction under the Clean Air Act to review an EPA denial of a petition for rulemaking. Section 307(b)(1), 42 U.S.C. § 7607(b)(1), gives this court exclusive jurisdiction over "nationally applicable regulations promulgated, or final action taken, by the Administrator" under chapter 85 of the Act. The district courts, on the other hand, have jurisdiction over citizen suits to compel EPA to perform nondiscretionary acts or duties. 42 U.S.C. § 7604(a)(2); *see Sierra Club v. Thomas*, 828 F.2d 783, 787-92 (D.C. Cir. 1987). Because EPA refused to promulgate "nationally applicable regulations" after being asked to do so, we have jurisdiction only if EPA thereby engaged in "final action." We can be sure that its denial of the rulemaking petition was "final." But did this constitute agency "action"? To answer that question we must consult the Administrative Procedure Act -- specifically 5 U.S.C. § 551(13). The term "action" in § 307(b)(1) of the Clean Air Act, like the term "final," carries its traditional meaning in administrative law. *See Whitman v. Am. Trucking Ass'ns*, 531 U.S. 457, 478 (2001); *Indep. Equip. Dealers Ass'n v. EPA*, 372 F.3d 420, 428 (D.C. Cir. 2004); *Sierra Club v. Gorsuch*, 715 F.2d 653, 656-57 (D.C. Cir. 1983). Section 551(13) of the APA defines "agency action" as "the whole or a part of an agency rule, order, license, sanction, relief, or the equivalent or *denial thereof*, or failure to act" (italics added). While § 307 of the Clean Air Act makes several APA provisions inapplicable -- namely, 5 U.S.C. §§ 553-557 & 706 -- APA § 551 is not among them. EPA's denial of

the rulemaking petition was therefore "final action," and since the petition sought regulations national in scope, § 307(b)(1) confers jurisdiction on this court to hear these consolidated cases.

Another, related, point needs to be mentioned. Several of the petitions for judicial review treated a memorandum of EPA's General Counsel, Robert Fabricant, as "final action taken, by the Administrator" under § 307(b)(1). The memorandum, dated August 28, 2003, and addressed to the EPA Administrator, was entitled "EPA's Authority to Impose Mandatory Controls to Address Global Climate Change under the Clean Air Act." The General Counsel, after analyzing § 202(a)(1) of the Clean Air Act, and other legislative and executive actions, stated his belief that the Act "does not authorize regulation to address global climate change." He therefore withdrew a contrary memorandum issued in 1998 by one of his predecessors.

The Fabricant memorandum, consisting of legal advice to the EPA Administrator, did not in itself constitute "final action" of the Administrator. To be sure, the Administrator adopted the "General Counsel's opinion" and relied on its analysis as one of the alternative grounds for rejecting the rulemaking petition. *See* 68 Fed. Reg. at 52,925. The Administrator's explanation incorporated many of the memorandum's passages verbatim, rephrased and reordered others, and expanded on the General Counsel's reasoning. Still, it is the Administrator's denial of the rulemaking petition, with the accompanying explanation, that represents the "final action" of the Administrator subject to judicial review under § 307(b)(1). The significance of the General Counsel's opinion, as set forth in his memorandum, is the Administrator's reliance on his reasoning in deciding the matter now before us.

There is an additional jurisdictional issue presented, but not under the Clean Air Act. EPA claims that petitioners lack standing under Article III of the Constitution. Standing exists only if the complainant has suffered an injury in fact, fairly traceable to the challenged action, and likely to be redressed by a favorable decision. *See Lujan v. Defenders of Wildlife,* 504 U.S. 555, 560 (1992). EPA's argument is that petitioners have not "adequately demonstrated" two elements of standing: that their alleged injuries were "caused by EPA's decision not to regulate emissions of greenhouse gases from mobile sources"; and that their injuries "can be redressed by a decision in their favor" by this court. Brief for Respondent at 16.

In anticipation of this argument, petitioners filed two volumes of declarations with the court, some containing lengthy exhibits. The declarations, from scientists, engineers, state officials, homeowners, users of the nation's recreational resources, and other individuals, predict catastrophic consequences from global warming caused by greenhouse gases, including loss of or damage to state and private property, frequent intense storm surge floods, and increased health care costs. Brief for Petitioners at 2-4.

For the causation and redressability aspects of standing, petitioners cite two of their declarations. One, from a climatologist, states that reductions in CO_2 and other greenhouse gases from vehicles in the United States would alone have a meaningful impact and would "delay and moderate many of the adverse impacts of global warming." He adds that if EPA took action to reduce such emissions, other countries would likely follow suit. The climatologist bases his predictions about future climate change on climate models and on "quantitative scenarios generated by the IPCC" -- the Intergovernmental Panel on Climate Change, established in 1988 by the United Nations and the World Meteorological Organization. The other declaration

is from a mechanical engineer. He states that, on the basis of his experience with controlling other pollutants, there is "no doubt that establishing emissions standards for pollutants that contribute to global warming would lead to investment in developing improved technologies to reduce those emissions from motor vehicles, and that successful technologies would gradually be mandated by other countries around the world."

We have held that, to establish standing, a petitioner challenging agency action has the same burden of production as "a plaintiff moving for summary judgment in the district court: it must support each element of its claim to standing 'by affidavit or other evidence.'" *Sierra Club v. EPA*, 292 F.3d 895, 899 (D.C. Cir. 2002) (quoting *Lujan*, 504 U.S. at 561). Petitioners' declarations do "support each element" of standing. But supporting an allegation is one thing; proving an allegation is quite another. *Lujan* holds that when a plaintiff's standing is challenged in a motion for summary judgment, the plaintiff "must 'set forth' by affidavit or other evidence 'specific facts,' Fed. Rule Civ. Proc. 56(e), which for purposes of the summary judgment motion will be taken as true." 504 U.S. at 561. If we were to analogize the situation here to one in which EPA filed such a summary judgment motion, we would conclude that petitioners had submitted enough evidence raising genuine issues of material fact to defeat the motion. *See* FED. R. CIV. P. 56©. But *Lujan* goes on to hold that at "the final stage" the evidence plaintiff presented at summary judgment "(if controverted) must be 'supported adequately by the evidence adduced at trial.'" 504 U.S. at 561 (quoting *Gladstone, Realtors v. Village of Bellwood*, 441 U.S. 91, 115 n.31 (1979)). One might say that in this case we are at the "final stage." But the analogy is not entirely apt. As an appellate court we do not conduct evidentiary hearings in order to make findings of fact. This is why, when *Sierra Club* spoke of "other evidence" relating to standing, the court had in mind evidence presented to

the agency. 292 F.3d at 899. Here, the administrative record contains a wealth of such "other evidence," and some of it contradicts petitioners' claim that greenhouse gas emissions from new motor vehicles have caused or will cause a significant change in the global climate. That is partly why EPA decided not to regulate at this time.

Steel Co. v. Citizens for a Better Environment, 523 U.S. 83 (1998), instructs federal courts to resolve Article III standing questions before proceeding to the merits of a case. The combination of *Lujan*, *Steel Co.*, and the factual overlap of the standing issues with EPA's justifications for not regulating greenhouse gases present us with three options. The first is to refer the standing issues to a special master for a factual determination. This would be, as one commentator has suggested, "folly." 13A CHARLES A. WRIGHT ET AL., FEDERAL PRACTICE AND PROCEDURE 2D § 3531.15, at 101 (1984). Such a proceeding would largely duplicate the proceedings on the rulemaking petition and to no good end. Another option would be to remand to EPA for a factual determination of causation and redressability. That too would make no sense. For one thing, judgments about standing are the responsibility of the federal courts. For another, EPA has already reached a decision about the state of the evidence regarding global warming from greenhouse gases. The third option is to proceed to the merits with respect to EPA's alternative decision not to regulate on the grounds, among others, that the effect of greenhouse gases on climate is unclear and that models used to predict climate change might not be accurate.

We have decided to follow the third course. *Steel Co.* endorses this approach with respect to questions of statutory standing. The Court explained that "the merits inquiry and the statutory standing inquiry often overlap" and "are sometimes identical, so that it would be exceedingly artificial to draw a

distinction between the two." 523 U.S. at 97 n.2. The Court's distinction of Article III standing cases rested on the premise that there would be no such overlap and that the issue of Article III standing would be entirely separate from the merits. *Id.* The Court did not say what the proper order of decision should be when, as in this case, that premise does not hold. In this highly unusual circumstance -- encountered for the first time in this court -- we will follow the statutory standing cases. We will therefore assume *arguendo* that EPA has statutory authority to regulate greenhouse gases from new motor vehicles.[1] The question we address is whether EPA properly declined to exercise that authority.

II.

Greenhouse gases trap energy, much like the glass panels of a greenhouse. The earth's surface is warmed by absorbing solar energy (visible light). The earth, in turn, radiates infrared energy (heat) back into space. A portion of the infrared radiation is trapped by greenhouse gas molecules, resulting in additional warming of the lower atmosphere and the earth's surface. This "greenhouse effect" is a natural phenomenon, without which the planet would be significantly colder and life as we know it would not be possible. EPA, *Global Warming -- Climate*, *at* http://yosemite.epa.gov/oar/globalwarming.nsf/content/climate.html.

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[1] Relying on *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000), EPA concluded that in light of the enormous economic and political consequences of regulating greenhouse gas emissions, Congress would have been far more specific if it had intended to authorize EPA to regulate the subject under § 202(a)(1) of the Clean Air Act. 58 Fed. Reg. at 52,928. We express no view on the validity of EPA's analysis.

Petitioners sought to have EPA regulate, under § 202(a)(1) of the Clean Air Act, carbon dioxide (CO_2), and three other greenhouse gases: methane (CH_4), nitrous oxide (N_2O), and hydrofluorocarbons (HFCs).[2] In response to EPA's request for public comments on the 1999 petition for rulemaking, the agency received nearly 50,000 submissions. 68 Fed. Reg. at 52,924. Most were short expressions of support for the petition; many were nearly identical. *Id.* The comment period closed in May 2001. In the same month, the White House requested the National Academy of Sciences to assist the Administration in its review of climate change policy. The Academy "is a private, nonprofit, self-perpetuating society of distinguished scholars engaged in scientific and engineering research . . . ." NATIONAL RESEARCH COUNCIL, CLIMATE CHANGE SCIENCE: AN ANALYSIS OF SOME OF THE KEY QUESTIONS, preface (2001). Under its congressional charter, issued in 1863, the Academy has a mandate to advise the federal government on scientific and technical matters when requested. The Academy's principal operating agency for providing such advice is its National Research Council. *Id.*

In denying the rulemaking petition, EPA found that the scientific comments petitioners and others submitted rested on information already in the public domain and did not add significantly to the body of knowledge available to the National Research Council when it prepared the report cited above. Since none of the comments caused EPA to question the Council's report, EPA decided to rely on the Council's "objective and independent assessment of the relevant science." 68 Fed. Reg. at 52,930.

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[2] The rulemaking request and the papers submitted to this court focus on the effects of CO_2.

The National Research Council concluded that "a causal linkage" between greenhouse gas emissions and global warming "cannot be unequivocally established." NATIONAL RESEARCH COUNCIL, CLIMATE CHANGE SCIENCE, at 17. The earth regularly experiences climate cycles of global cooling, such as an ice age, followed by periods of global warming. *Id.* at 7. Global temperatures have risen since the industrial revolution, as have atmospheric levels of carbon dioxide. But an increase in carbon dioxide levels is not always accompanied by a corresponding rise in global temperatures. For example, although carbon dioxide levels increased steadily during the twentieth century, global temperatures decreased between 1946 and 1975. *Id.* at 16. Considering this and other data, the National Research Council concluded that "there is considerable uncertainty in current understanding of how the climate system varies naturally and reacts to emissions of greenhouse gases." *Id.* at 1. This uncertainty is compounded by the possibility for error inherent in the assumptions necessary to predict future climate change.[3] And, as the National Research Council noted,

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[3] "As the NRC explained, predicting future climate change necessarily involves a complex web of economic and physical factors including: Our ability to predict future global anthropogenic emissions of GHGs and aerosols; the fate of these emissions once they enter the atmosphere (*e.g.*, what percentage are absorbed by vegetation or are taken up by the oceans); the impact of those emissions that remain in the atmosphere on the radiative properties of the atmosphere; changes in critically important climate feedbacks (*e.g.*, changes in cloud cover and ocean circulation); changes in temperature characteristics (*e.g.*, average temperatures, shifts in daytime and evening temperatures); changes in other climatic parameters (*e.g.*, shifts in precipitation, storms); and ultimately the impact of such changes on human health and welfare (*e.g.*, increases or decreases in agricultural productivity, human health impacts). The NRC noted, in particular, that '[t]he understanding of the relationships between weather/climate and human health is in its infancy and therefore the health consequences

past assumptions about effects of future greenhouse gas emissions have proven to be erroneously high. *Id.* at 19.

Relying on *Ethyl Corp. v. EPA*, 541 F.2d 1 (D.C. Cir. 1976) (en banc), petitioners challenge EPA's decision to forego rulemaking "[u]ntil more is understood about the causes, extent and significance of climate change and the potential options for addressing it." 68 Fed. Reg. at 52,931. In our view *Ethyl* supports EPA, not petitioners. Section 202(a)(1) directs the Administrator to regulate emissions that "in his judgment" "may reasonably be anticipated to endanger public health or welfare." Section 202(a)(1) was not at issue in *Ethyl*; the court mentioned an earlier version of that provision, in a footnote, only by way of analogy. 541 F.2d at 20 n.37. But what the court had to say about § 202(a)(1) is instructive. In requiring the EPA Administrator to make a threshold "judgment" about whether to regulate, § 202(a)(1) gives the Administrator considerable discretion. *Id.* Congress does not require the Administrator to exercise his discretion solely on the basis of his assessment of scientific evidence. *Id.* at 20. What the *Ethyl* court called "policy judgments" also may be taken into account. By this the court meant the sort of policy judgments Congress makes when it decides whether to enact legislation regulating a particular area. *Id.* at 26.

The EPA Administrator's analysis, although it did not mention *Ethyl*, is entirely consistent with the case. In addition to the scientific uncertainty about the causal effects of

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of climate change are poorly understood' (p. 20). Substantial scientific uncertainties limit our ability to assess each of these factors and to separate out those changes resulting from natural variability from those that are directly the result of increases in anthropogenic GHGs." 68 Fed. Reg. at 52,930.

greenhouse gases on the future climate of the earth, the Administrator relied upon many "policy" considerations that, in his judgment, warranted regulatory forbearance at this time. 68 Fed. Reg. at 52,929. New motor vehicles are but one of many sources of greenhouse gas emissions; promulgating regulations under § 202 would "result in an inefficient, piecemeal approach to the climate change issue." 68 Fed. Reg. at 52,931. The Administrator expressed concern that unilateral regulation of U.S. motor vehicle emissions could weaken efforts to persuade developing countries to reduce the intensity of greenhouse gases thrown off by their economies. *Id.* Ongoing research into scientific uncertainties and the Administration's programs to address climate change -- including voluntary emission reduction programs and initiatives with private entities to develop new technology -- also played a role in the Administrator's decision not to regulate. 68 Fed. Reg. at 52,931-33. The Administrator pointed to efforts to promote "fuel cell and hybrid vehicles" and ongoing efforts to develop "hydrogen as a primary fuel for cars and trucks." 68 Fed. Reg. at 52,931. The Administrator also addressed the matter of remedies. Petitioners offered two ways to reduce CO_2 from new motor vehicles: reduce gasoline consumption and improve tire performance. As to the first, the Department of Transportation -- the agency in charge of fuel efficiency standards -- recently issued new standards requiring greater fuel economy, as a result of which millions of metric tons of CO_2 will never reach the stratosphere. *Id.* As to tire efficiency, EPA doubted its authority to regulate this subject as an "emission" of an air pollutant. *Id.* "With respect to the other [greenhouse gases] -- CH_4, N_2O, and HFCs -- petitioners make no suggestion as to how those emissions might be reduced from motor vehicles." *Id.*

It is therefore not accurate to say, as petitioners do, that the EPA Administrator's refusal to regulate rested entirely on

scientific uncertainty, or that EPA's decision represented an "open-ended invocation of scientific uncertainty to justify refusing to regulate," Brief for Petitioners at 51. A "determination of endangerment to public health," the court said in *Ethyl*, "is necessarily a question of policy that is to be based on an assessment of risks and that should not be bound by either the procedural or the substantive rigor proper for questions of fact." *Ethyl*, 541 F.2d at 24. And as we have held, a reviewing court "will uphold agency conclusions based on policy judgments" "when an agency must resolve issues 'on the frontiers of scientific knowledge.'" *Envtl. Def. Fund v. EPA*, 598 F.2d 62, 82 (D.C. Cir. 1978).

We thus hold that the EPA Administrator properly exercised his discretion under § 202(a)(1) in denying the petition for rulemaking. The petitions for review in Nos. 03-1365, 03-1366, 03-1367, and 03-1368 are dismissed, and the petitions for review in Nos. 03-1361, 03-1362, 03-1363, and 03-1364 are denied.

So ordered.

SENTELLE, *Circuit Judge, dissenting in part and concurring in the judgment*: As the majority's opinion observes, courts of the United States must resolve jurisdictional questions, including "Article III standing questions, before proceeding to the merits of a case." Opinion of Judge Randolph at 9 (citing *Steel Co. v. Citizens for a Better Environment*, 523 U.S. 83 (1998)). As the majority further observes, "[s]tanding exists only if the complainant has suffered an injury in fact, fairly traceable to the challenged action, and likely to be redressed by a favorable decision." *Id.* at 6-7 (citing *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560 (1992)). EPA argues "that petitioners have not 'adequately demonstrated' two elements of standing: that their alleged injuries were 'caused by EPA's decision not to regulate emissions of greenhouse gases from mobile sources'; and that their injuries 'can be redressed by a decision in their favor' by this court." *Id.* at 7 (quoting Brief for Respondent at 16). While I respect the majority's thorough and accurate history of the precedents on the standing question, after consulting the same authorities I have come to a different conclusion. I conclude that EPA is correct in its assertion that the petitioners have not demonstrated the element of injury necessary to establish standing under Article III.

I. Injury

As the Supreme Court has stated quite directly and succinctly:

> It is an established principle that to entitle a private individual to invoke the judicial power to determine the validity of executive or legislative action he must show that he has sustained or is immediately in danger of sustaining a direct injury as the result of that action and it is not sufficient that he has merely a general interest common to all members of the public.

Ex Parte Levitt, 302 U.S. 633 (1937) (citing *Tyler v. Judges*, 179 U.S. 405, 406 (1900); *Southern Ry. Co. v. King*, 217 U.S. 524, 534 (1910); *Newman v. Frizzell*, 238 U.S. 537, 549, 550 (1915); *Fairchild v. Hughes*, 258 U.S. 126, 129 (1922); *Massachusetts v. Mellon*, 262 U.S. 447, 488) (1923)).

Thus, the courts "have consistently held that a plaintiff raising only a generally available grievance about government – claiming only harm to his and every citizen's interest in proper application of the Constitution and laws, and seeking relief that no more directly and tangibly benefits him than it does the public at large – does not state an Article III case or controversy." *Lujan*, 504 U.S. at 573. Or, as the Supreme Court has also put it, to establish Article III standing a "plaintiff must have suffered an 'injury in fact'– an invasion of a legally protected interest which is (a) concrete and *particularized* . . . and (b) actual or imminent, not conjectural or hypothetical." *Id.* at 560 (emphasis added; citations and internal quotation marks omitted). Most tellingly, the Supreme Court has specifically declared that "[b]y particularized, we mean that the injury must affect the plaintiff in a personal and individual way." *Id.* at n.1. In the case before us, that is what the petitioners have not established. After plowing through their reams of affidavits and arguments, I am left with the unshaken conviction that they have alleged and shown no harm particularized to themselves. As we have observed in the context of determining standing even in a procedural case, in which the standards are perhaps more relaxed than in other cases, "in order to show that the interest asserted is more than a mere 'general interest . . . common to all members of the public,' the plaintiffs must show that the government act . . . will cause a distinct risk to a particularized interest of the plaintiff." *Florida Audubon Soc'y v. Bentsen*, 94 F.3d 658, 664 (D.C. Cir. 1996).

Petitioners' allegations and affidavits, and petitioners' argument and briefs, are all well made and sincere. Nonetheless, even in the light most favorable to the petitioners, in the end they come down to this: Emission of certain gases that the EPA is not regulating may cause an increase in the temperature of the earth – a phenomenon known as "global warming." This is harmful to humanity at large. Petitioners are or represent segments of humanity at large. This would appear to me to be neither more nor less than the sort of general harm eschewed as insufficient to make out an Article III controversy by the Supreme Court and lower courts.

The courts under Article III stand ready to adjudicate and redress the particularized injuries of plaintiffs, when all other elements of jurisdiction are present. But "when the plaintiff is not himself the object of the government action or inaction he challenges, [although] standing is not precluded, . . . it is ordinarily 'substantially more difficult' to establish." *Lujan*, 504 U.S. at 562 (citations omitted). This time, in my view, it is not only difficult, it is impossible. The generalized public good that petitioners seek is the thing of legislatures and presidents, not of courts. As we stated in another environmental case, to ascertain standing courts must ask the question, did the "underlying governmental act [or inaction] demonstrably increase[] some specific risk of environmental harm to the interest *of the plaintiff*"? *Florida Audubon Soc'y*, 94 F.3d at 667 (emphasis in original). Here, as in *Florida Audubon*, the alleged harm is not particularized, not specific, and in my view, not justiciable.

Therefore, I would reject and dismiss all the petitions before us. This is not to say that petitioners' complaints are wrong. This is not to say they are without redress. This is to say only that the question is not justiciable in its present form with its present champions in the present forum. A case such as this, in

which plaintiffs lack particularized injury is particularly recommended to the Executive Branch and the Congress. Because plaintiffs' claimed injury is common to all members of the public, the decision whether or not to regulate is a policy call requiring a weighing of costs against the likelihood of success, best made by the democratic branches taking into account the interests of the public at large. There are two other branches of government. It is to those other branches that the petitioners should repair.

II. Concurrence in the Judgment

My conclusion leaves a slight problem. No problem exists as to the petitions for review of nonfinal action which Judge Randolph's opinion orders dismissed. I would dismiss those as well, on either his ground or mine. The problem vexes only as to petitions for review in Nos. 03-1361, 03-1362, 03-1363, and 03-1364, which Judge Randolph would deny and Judge Tatel would grant. I would dismiss those as well, as I would hold that we have no jurisdiction to either deny or grant them. How then are we to reach a judgment?

The Supreme Court has suggested a way, or at least Justices of the Supreme Court have. Most recently, in *Hamdi v. Rumsfeld*, 124 S. Ct. 2633 (2004), Justice Souter, joined by Justice Ginsburg, differed from the plurality in a fragmented opinion adjudicating the due process rights of alleged enemy combatants held at Guantanamo Bay by the United States military. Justices Souter and Ginsburg would have vacated the judgment of the Court of Appeals and remanded for proceedings consistent with their view that the government had failed to justify holding the petitioner. However, because that view did not command a majority of the court, and because of "the need to give practical effect to the conclusion of [a majority] of the court rejecting the government's position," Justice Souter

(joined by Justice Ginsburg) joined with the plurality "in ordering a remand on terms closest to those I would impose." 124 S. Ct. at 2660 (Souter, J., concurring). I will take a similar course here.

The majority today holds that we have jurisdiction to render judgment on four of the petitions before us. Although I disagree, I will accept the decision of the majority as dictating the law of this case. Having so accepted the law of the case, I will then join Judge Randolph in the issuance of a judgment closest to that which I myself would issue. With that explanation, I join in the decision to order denying the four petitions from final action of the Environmental Protection Agency.

TATEL, *Circuit Judge*, dissenting in Nos. 03-1361, 03-1362, 03-1363, and 03-1364: Petitioners claim that motor vehicle emissions of greenhouse gases contribute to global warming and that global warming in turn is causing a host of serious problems, likely including increased flash flood potential in the Appalachians, degraded water quality and reduced water supply in the Great Lakes, sea-ice melting and permafrost thawing in Alaska, reduced summer snow-pack runoff in the Rockies, extreme water resource fluctuations in Hawaii, and rising sea levels combined with higher storm surges along the coasts of Puerto Rico, the Virgin Islands, and some eastern states. *See* Pet'rs Br. at 8-10 (summarizing U.S. Dep't of State, *U.S. Climate Action Report 2002*, at 110). Concerned about such problems, petitioners asked EPA to regulate these emissions under Clean Air Act section 202(a)(1), which provides: "The Administrator shall by regulation prescribe . . . standards applicable to the emission of any air pollutant from . . . new motor vehicles . . . which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7521(a)(1). EPA denied the petition on two grounds—that it lacked statutory authority to regulate such emissions and that even given such authority it would not exercise it—and petitioners sought review in this court.

My colleagues agree that the petitions for review should not be granted, but they do so for quite different reasons. Judge Sentelle thinks that petitioners lack standing and would dismiss the petitions for that reason. Judge Randolph does not resolve whether petitioners have standing and would deny the petitions based on one of EPA's two given reasons.

I have yet a different view. Unlike Judge Sentelle, I think at least one petitioner has standing, as I explain in Part II. Unlike Judge Randolph, I think EPA's order cannot be sustained on the merits. EPA's first given reason—that it lacks statutory

authority to regulate emissions based on their contribution to welfare-endangering climate change, 68 Fed. Reg. 52,922, 52,925-29 (Sept. 8, 2003)—fails, as I explain in Part III, because the statute clearly gives EPA authority to regulate "*any* air pollutant" that may endanger welfare, 42 U.S.C. § 7521(a)(1), with "air pollutant" defined elsewhere in the statute as "including any physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air," *id.* § 7602(g). EPA's second given reason—the one accepted by Judge Randolph—is that even if it has statutory authority, it nonetheless "believes" that "it is inappropriate to regulate [greenhouse gas] emissions from motor vehicles" due to various policy reasons. As I explain in Part IV, however, none of these policy reasons relates to the statutory standard—"cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare," *id.* § 7521(a)(1)—and the Clean Air Act gives the Administrator no discretion to withhold regulation for such reasons.

In short, EPA has failed to offer a lawful explanation for its decision. I would accordingly grant the petitions for review and send the matter back to EPA either to make an endangerment finding or to come up with a reasoned basis for refusing to do so in light of the statutory standard.

I.

"Greenhouse gases are accumulating in Earth's atmosphere as a result of human activities, causing surface air temperatures and subsurface ocean temperatures to rise." So begins page one of the National Research Council's 2001 report, *Climate Change Science: An Analysis of Some of the Key Questions* ("NRC Report"), the scientific document EPA "rel[ied]" on in denying the petition for rulemaking, *see* 68 Fed. Reg. at 52,930.

As the NRC Report explains, greenhouse gases (GHGs) trap heat radiated from earth, and their atmospheric concentrations

are increasing "as a result of human activities." NRC Rep. at 1, 9. For example, "[h]uman activities . . . responsible for the increase" in atmospheric concentrations of carbon dioxide (CO_2)—the chief GHG—include "[t]he primary source, fossil fuel burning," as well as "[t]ropical deforestation." *Id.* at 2; *see also id.* at 10, 12. The resulting increases are striking. In the 400,000 years prior to the Industrial Revolution, atmospheric CO_2 concentrations "typically ranged between 190" parts per million by volume (ppmv) "during the ice ages to near 280 ppmv during the warmer 'interglacial' periods." *Id.* at 11. By 1958, atmospheric concentrations were 315 ppmv (12.5% above the pre-Industrial-Revolution high of 280 ppmv), and by 2000 they had risen to 370 ppmv (17% above the 1958 level). *Id.* at 10. Similarly, prior to the Industrial Revolution, atmospheric concentrations of methane (CH_4), another GHG, ranged from .3 ppmv to .7 ppmv; now, "current values are around 1.77 ppmv." *Id.* at 11. Atmospheric concentrations of other GHGs like nitrous oxide (N_2O) have also risen. *Id.* at 2. Notably, GHGs not only disperse throughout the lower atmosphere, but also linger there at length: "Reductions in the atmospheric concentrations of these gases following possible lowered emissions rates in the future will stretch out over decades for methane, and centuries and longer for carbon dioxide and nitrous oxide." *Id.* at 10.

Increased GHG atmospheric concentrations are causing "climate forcings"—"imposed perturbation[s] of Earth's energy balance" measured in terms of units of watts per square meter (W/m^2). *Id.* at 6. Drawing from another report—an Intergovernmental Panel on Climate Change (IPCC) report with which the NRC "generally agrees," *id.* at 1—the NRC Report quantifies these climate forcings. CO_2, "probably the most important climate forcing agent today," has "caus[ed] an increased forcing of about 1.4 W/m^2" between 1750 and 2000. *Id.* at 12, 13. More lies ahead:

> CO_2 climate forcing is likely to become more dominant in the future as fossil fuel use continues. If fossil fuels continue to be used at the current rate, the added CO_2 forcing in 50 years will be about 1 W/m^2. If fossil fuel use increases by 1-1.5% per year for 50 years, the added CO_2 forcing instead will be about 2 W/m^2.

Id. at 12-13. Thus, by 2050, the total CO_2 forcing since 1750 could be from 2.4-3.4 W/m^2. The other GHGs "together cause a climate forcing approximately equal to that of CO_2," or more if one includes certain indirect effects of increased CH_4 emissions. *Id.* at 13. While atmospheric GHG increases are not the only causes of climate forcings—for example, changes in solar irradiance and in concentrations of tropospheric ozone also appear to have caused climate forcings, and atmospheric concentration changes in aerosols like sulphates appear to have caused negative (cooling) climate forcings—all other forcings are less certain and appear less substantial than those caused by GHGs. *See id.*

The extent to which these forcings affect average global temperatures depends on the climate's sensitivity, a condition that is not precisely known. *Id.* at 7. "Well-documented climate changes . . . imply that the climate sensitivity is near . . . 3°C" (5.4°F) for a 4 W/m^2 forcing—a number a bit above the total CO_2 forcing predicted by 2050—"but with a range from 1.5°C to 4.5°C (2.7 to 8.1°F)." *Id.*

Turning to the practical effects of GHG climate forcings, the NRC Report observes that a "diverse array of evidence points to a warming of global surface temperatures." *Id.* at 16. Though the "rate of warming has not been uniform," measurements "indicate that global mean surface air temperature warmed by about .4-.8°C (.7-1.5°F) during the 20th century." *Id.* The report notes that "[t]he Northern Hemisphere as a whole experienced a slight cooling from 1946-75,"—a statement Judge Randolph erroneously reads for the proposition that "*global*

temperatures decreased between 1946 and 1975," op. of Randolph, J., at 12 (emphasis added)—possibly due to the widespread burning of high sulfur coal and resultant sulfate emissions or to changes in ocean circulation in the Atlantic. NRC Rep. at 16. The report also observes that, as the IPCC report points out, the "warming of the Northern Hemisphere during the 20th century is likely to have been the largest of any century in the past thousand years." *Id.*

In evaluating the relationship between GHG atmospheric increases and twentieth-century temperature increases, the NRC Report states that due to the

> large and still uncertain level of natural variability inherent in the climate record and the uncertainties in the time histories of various forcing agents (and particularly aerosols), a causal linkage between the buildup of greenhouse gases in the atmosphere and the observed climate changes during the 20th century cannot be unequivocally established.

Id. at 17. Although Judge Randolph seizes on this uncertainty—and portrays it as applying to global warming generally rather than to twentieth-century warming, *see* op. of Randolph, J., at 11—read in context, it appears little more than an application of the principle that, as the NRC Report later puts it, "[c]onfidence limits and probabilistic information, with their basis, should always be considered as an integral part of the information that climate scientists provide to policy and decision makers," NRC Rep. at 22. Indeed, the NRC Report goes on to state that the "fact that the magnitude of the observed warming is large compared to natural variability as simulated in climate models is suggestive of such a linkage" between GHG atmospheric concentration increases and twentieth-century temperature increases, though not "proof" of it. *Id.* at 17.

The NRC Report further suggests that uncertainties about

future warming relate chiefly to its scope.

> Climate change simulations for the period of 1990 to 2100 based on IPCC emissions scenarios yield a globally-averaged surface temperature increase by the end of the century of 1.4 to 5.8°C (2.5 to 10.4°F) relative to 1990. The wide range of uncertainty in these estimates reflects both the different assumptions about future concentrations of greenhouse gases and aerosols in the various scenarios considered by the IPCC and the differing climate sensitivities of the various climate models used in the simulations. The range of climate sensitivities implied by these predictions is generally consistent with previously reported values.

Id. at 3. These numbers, of course, are averages: the "predicted warming is higher over higher latitudes than low latitudes, especially during winter and spring, and larger over land than over sea." *Id.*

With this warming will come secondary effects. Predicted impacts in the United States include increased likelihood of drought, greater heat stress in urban areas, rising sea levels, and disruption to many U.S. ecosystems. *Id.* at 19-20. The likelihood and scope of these impacts vary depending on the magnitude of future temperature increases. *See id.*; *see also id.* at 4. Because the "predicted temperature increase is sensitive to assumptions concerning future concentrations of greenhouse gases and aerosols," which in turn depend on future emissions, "national policy decisions made now and in the longer-term future will influence the extent of any damage suffered by vulnerable human populations and ecosystems later in this century." *Id.* at 1.

II.

EPA claims petitioners lack standing to bring this case. To reach the merits, however, we need determine only that one petitioner has standing. *See, e.g., Nuclear Energy Inst., Inc. v. EPA*, 373 F.3d 1251, 1266 (D.C. Cir. 2004). In my view, declarations submitted by petitioners clearly establish that the Commonwealth of Massachusetts has satisfied each element of Article III standing—injury, causation, and redressability, *see, e.g., Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560-61 (1992).

Among other things, Massachusetts claims injury—the "substantial probability that local conditions will be adversely affected," *Sierra Club v. EPA*, 292 F.3d 895, 898 (D.C. Cir. 2002) (internal quotation marks omitted)—resulting from rising sea levels. The declaration of Paul Kirshen, a professor at Tufts University's Civil and Environmental Engineering Department, details how projected rises in sea levels in the metropolitan Boston area would lead both to permanent loss of coastal land and to "more frequent and severe storm surge flooding events along the coast." Kirshen Decl. ¶¶ 7-8; *see also* Jacqz Decl. ¶¶ 8-11. "[I]f sea level rises .3 meters (11.8 inches)—which is near the lower end of the likely range—that would mean the future 10-year flood surge elevation would be at the level of the current 100-year flood elevation and the future 100-year flood surge elevation would be at that of the current 500-year flood elevation." Kirshen Decl. ¶ 10. As other declarations make clear, such changes would lead to serious loss of and damage to Massachusetts's coastal property. *See* Hoogeboom Decl. ¶¶ 6-7; Jacqz Decl. ¶ 11.

Given these declarations, I disagree that no petitioner suffers "harm particularized to" itself. *See* op. of Sentelle, J., at 2. The Commonwealth of Massachusetts claims an injury—namely, loss of land within its sovereign boundaries—that "affects [it] in a personal and individual way,"

Lujan, 504 U.S. at 560 n.1. This loss (along with increased flood damage to the Massachusetts coast) undeniably harms the Commonwealth in a way that it harms no other state. Other states may face their own particular problems stemming from the same global warming—Maine may suffer from loss of Maine coastal land and New Mexico may suffer from reduced water supply—but these problems are different from the injuries Massachusetts faces. Massachusetts's harm is thus a far cry from the kind of generalized harm that the Supreme Court has found inadequate to support Article III standing, i.e., "harm to [its] and every citizen's interest in proper application of the Constitution and laws," or put another way "relief that no more directly and tangibly benefits [it] than it does the public at large," *id.* at 573-74.

As to causation, the declaration of Michael MacCracken, the senior scientist on global change at the Office of the U.S. Global Change Research Program from 1993-2002, states that global warming is causing sea level increases like those in Massachusetts. "[T]he warming of the oceans and the increased melting of many mountain glaciers around the world . . . were the major contributions to the rise in global sea level by 10-20 cm (4 to 8 inches) observed over the past century" and the "environmental impacts of projected global warming will include . . . an increase in sea level at an average rate of about .5 to 3.5 inches per decade, reaching 4-35 inches by the end of the century (with the most likely value being, in my expert opinion, near or above the middle of this range)." MacCracken Decl. ¶ 5(c)-(d); *see also id.* ¶ 23. MacCracken further states that global warming is chiefly triggered by human-caused GHG emissions, *see id.* ¶¶ 5(a)-(b), 12-19, with "the U.S. transportation sector (mainly automobiles) . . . responsible for about 7% of global fossil fuel emissions," *id.* ¶ 31.

Finally, as to redressability, MacCracken emphasizes that "[a]chievable reductions in emissions of CO_2 and other [GHGs]

from U.S. motor vehicles would . . . delay and moderate many of the adverse impacts of global warming." *Id.* ¶5(e). Elaborating, he states that "[g]iven the large emissions of CO_2 and other [GHGs] from motor vehicles in the United States and the lead time needed to economically introduce changes into the motor vehicle fleet, emission reductions must be initiated in the near future in order to significantly reduce and delay the impacts of global warming." *Id.* ¶ 31. Because the extent of damage to the Massachusetts coastline depends on the magnitude of the rise in sea level, a reduction in this projected adverse consequence of global warming would partially redress Massachusetts's injury. *See Tozzi v. U.S. Dep't of Health & Human Servs.*, 271 F.3d 301, 310 (D.C. Cir. 2001) (holding that a petitioner need only demonstrate it would receive "at least some" relief to establish redressability). Nowhere disputing this proposition, EPA instead claims that MacCracken's conclusion depends upon the assumption that other countries will follow the U.S. lead and regulate motor vehicle GHG emissions. Even were this reading of the declaration correct—a dubious premise given MacCracken's unqualified language focusing on U.S. emissions reduction—the uncontested declaration of Michael Walsh, a consultant on motor vehicle pollution technology and at one point director of EPA's motor vehicle pollution control efforts, provides a basis for concluding that other countries would come to mandate technology developed in response to U.S. regulation. Describing how in the past other countries have come to require such technology, Walsh concludes that "[o]n the basis of my experience with the control of other pollutants . . . I have no doubt that establishing emissions standards for pollutants that contribute to global warming would lead to investment in developing improved technologies to reduce those emissions from motor vehicles, and that successful technologies would gradually be mandated by other countries around the world." Walsh Decl. ¶¶ 7-8, 10.

Judge Randolph, accepting that the declarations "do

'support each element' of standing," nonetheless questions whether this is enough. *See* op. of Randolph, J., at 8 (quoting *Sierra Club*, 292 F.3d at 899). Specifically, he believes we confront a question left open in our *Sierra Club* decision. In that case, we held that "[t]he petitioner's burden of production in the court of appeals is . . . the same as that of a plaintiff moving for summary judgment in the district court: it must support each element of its claim to standing 'by affidavit or other evidence.'" 292 F.3d at 899 (quoting *Lujan*, 504 U.S. at 561). But we never explicitly addressed what happens if the agency submits evidence that contradicts that of petitioners. Do we resolve factual disputes in petitioners' favor, return the case to the agency for fact-finding, send the matter to a special master, or pursue some other course of action?

The issue is fascinating, but we need not confront it. Given that the burdens of production here are comparable to those at summary judgment, *see* 292 F.3d at 899, if EPA wants to challenge the facts petitioners have set forth in their affidavits, it has an obligation to respond to the petitioners by "citing any record evidence relevant to . . . standing and, if necessary, appending to its filing additional affidavits or other evidence," *see id.* at 900-01. EPA makes no such challenge.

Indeed, if anything, the order under review appears to support petitioners' standing. While, drawing on the NRC Report, EPA observes that "there continue to be important uncertainties in our understanding of the factors that may affect future climate change," 68 Fed. Reg. at 52,930, EPA never denies the "substantial probability," *see Sierra Club*, 292 F.3d at 898, that injurious global warming is occurring. Quite to the contrary, EPA "agree[s] with the President that 'we must address the issue of global climate change.'" 68 Fed. Reg. at 52,929 (quoting presidential statement of Feb. 14, 2002). As to causation and redressability, the petition denial emphasizes that "EPA is also working to encourage voluntary GHG emission

reductions from the transportation sector" and that "the Administration's global climate change policy includes promoting the development of fuel-efficient motor vehicles and trucks, researching options for producing cleaner fuels, and implementing programs to improve energy efficiency." *Id.* at 52,932; *see also* NRC Rep. at 1 (noting that "national policy decisions made now . . . will influence the extent of any damage" caused by global warming). EPA would presumably not bother with such efforts if it thought emissions reductions would have no discernable impact on future global warming.

Because EPA nowhere challenges petitioners' declarations, I see no reason to consider what we would do if it had done so. Thus, unlike Judge Randolph, I think it unnecessary to address whether we can carve out exceptions to the Supreme Court's seemingly unqualified holding that "a merits question cannot be given priority over an Article III question," *Steel Co. v. Citizens for a Better Env't*, 523 U.S. 83, 97 n.2 (1998). The Commonwealth of Massachusetts has adequately demonstrated its standing, and our jurisdiction is plain.

III.

As to the merits, the threshold question is this: does the Clean Air Act authorize EPA to regulate emissions based on their effects on global climate? Taking a constricted view, EPA insists it has no authority to regulate GHG emissions even if they contribute to substantial and harmful global warming. By contrast, petitioners claim that Congress has plainly given EPA the authority it says it lacks.

"If a court, employing traditional tools of statutory construction, ascertains that Congress had an intention on the precise question at issue, that intention is the law and must be given effect." *Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 843 n.9 (1984). The inquiry "begin[s], as always, with the plain language of the statute in

question." *Consumer Elecs. Ass'n v. FCC*, 347 F.3d 291, 297 (D.C. Cir. 2003) (quoting *Citizens Coal Council v. Norton*, 330 F.3d 478, 482 (D.C. Cir. 2003)). CAA section 202(a)(1), added by Congress in 1965 and amended in 1970 and 1977, provides,

> The Administrator shall by regulation prescribe . . . standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.

42 U.S.C. § 7521(a)(1). This language plainly authorizes regulation of (1) any air pollutants emitted from motor vehicles that (2) in the Administrator's judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare. EPA's claimed lack of authority relates to the first of these two elements. According to EPA, GHGs like CO_2, CH_4, N_2O, and hydrofluorocarbons (HFCs) "are not air pollutants." 68 Fed. Reg. at 52,928.

Congress, however, left EPA little discretion in determining what are "air pollutants." Added in 1970 and amended in 1977, CAA section 302(g) defines the term as follows:

> The term 'air pollutant' means any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air.

42 U.S.C. § 7602(g). This exceedingly broad language plainly covers GHGs emitted from motor vehicles: they are "physical [and] chemical . . . substance[s] or matter . . . emitted into . . . the ambient air." Indeed, in one CAA provision, added in 1990, Congress explicitly included CO_2 in a partial list of "air pollutants." Section 103(g) instructs the Administrator to research "nonregulatory strategies and technologies for preventing or reducing multiple air pollutants, including sulfur

oxides, nitrogen oxides, heavy metals, PM-10 (particulate matter), carbon monoxide, and *carbon dioxide*." *Id.* § 7403(g) (emphasis added). Faced with such language, a court—as well as an agency—would normally end the analysis here and conclude that GHGs are "air pollutants," since "[w]e 'must presume that a legislature says in a statute what it means and means in a statute what it says . . . . When the words of a statute are unambiguous . . . this first canon is also the last: judicial inquiry is complete.'" *Teva Pharm. Indus. Ltd. v. Crawford*, 410 F.3d 51, 53 (D.C. Cir. 2005) (quoting *Conn. Nat'l Bank v. Germain*, 503 U.S. 249, 253-54 (1992)) (omissions in original).

Unswayed by what it calls "narrow semantic analyses," Resp't Br. at 55—but what courts typically call *Chevron* step one—EPA claims that a "more holistic analysis . . . [of] the text, structure, and history of the CAA as a whole, as well as the context provided by other legislation that is specific to climate change," justifies its conclusion that it cannot regulate GHGs like CO_2 for their effects on climate change, *id.* at 25-26. To disregard the Act's plain text in this way, EPA needs an "extraordinarily convincing justification." *Appalachian Power Co. v. EPA*, 249 F.3d 1032, 1041 (D.C. Cir. 2001). "For the EPA to avoid a literal interpretation at *Chevron* step one, it must show either that, as a matter of historical fact, Congress did not mean what it appears to have said, or that, as a matter of logic and statutory structure, it almost surely could not have meant it." *Engine Mfrs. Ass'n v. EPA*, 88 F.3d 1075, 1089 (D.C. Cir. 1996).

EPA offers four reasons for abandoning the Act's text. First, it suggests that since the 1965, 1970, and 1977 Congresses were not specifically concerned with global warming, the Act cannot apply to GHGs. Second, it claims that for both practical and policy reasons, global pollution should be tackled through specific statutory provisions rather than general ones. Third, relying on *FDA v. Brown & Williamson Tobacco Corp.*, 529

U.S. 120 (2000), it argues that Congress's passage of legislation calling for study of climate change, along with Congress's failure to pass any provisions tailored solely to regulating GHGs, demonstrates that the CAA cannot apply to GHGs. Finally, EPA suggests that Congress couldn't have intended the definition of "air pollutant" to cover CO_2, since EPA regulation of CO_2 emissions from automobiles would overlap with Department of Transportation (DOT) authority over fuel economy standards under a different act. None of these reasons provides a convincing justification—let alone an "extraordinarily convincing" one—for EPA's counter-textual position.

EPA first suggests that because the 1965, 1970, and 1977 Congresses showed little concern about the specific problem of global warming, reading the CAA's language to cover such problems would be like finding "an elephant in a mousehole." Tr. of Oral Arg. at 32; *see also* Resp't Br. at 23 (quoting *Whitman v. Am. Trucking Ass'ns*, 521 U.S. 457, 468 (2002)). EPA is correct that those Congresses spilled little ink on the issue of global warming: while the legislative history contains a few stray references to human-forced climate change, *see, e.g.*, 111 Cong. Rec. 25,061 (Sept. 24, 1965) (statement of Rep. Helstoski); 116 Cong. Rec. 32,914 (Sept. 21, 1970) (report introduced in the record by Sen. Boggs), in those years the scientific understanding of the issue was nascent at best, *see, e.g.*, *Environmental Quality: The First Annual Report of the Council on Environmental Quality* 93 (1970) (noting that "[m]an may be changing his weather" but expressing uncertainty as to whether global warming or cooling was occurring). But EPA errs in suggesting that because Congress may not have precisely foreseen global warming, the Act provides no authorization for GHG regulation. Hardly a mousehole, the definition of "air pollutants"—"including any physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air"—enables the Act to apply to

new air pollution problems as well as existing ones. "[T]he fact that a statute can be applied in situations not expressly anticipated by Congress," the Supreme Court has explained, "does not demonstrate ambiguity. It demonstrates breadth." *PGA Tour, Inc. v. Martin*, 532 U.S. 661, 689 (2001) (quoting *Pa. Dep't of Corrections v. Yeskey*, 524 U.S. 206, 212 (1998)). Indeed, Congress expressly instructed EPA to be on the lookout for climate-related problems in evaluating risks to "welfare." Section 302(h), added in 1970, explains that "[a]ll language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, *and climate*." 42 U.S.C. § 7602(h) (emphasis added).

EPA's second reason for its interpretation—that for practical and policy reasons global warming should be dealt with through specifically tailored statutes—likewise fails to trump Congress's plain language. It may well be that a statute aimed solely at global warming would deal with the problem more effectively than one aimed generally at air pollution. But an agency may not "avoid the Congressional intent clearly expressed in the [statutory] text simply by asserting that its preferred approach would be better policy." *Engine Mfrs. Ass'n*, 88 F.3d at 1089. Perhaps recognizing this point, EPA attempts to link its policy arguments to the statute by claiming that because the 1977 and 1990 Congresses enacted provisions specific to another global pollution problem—depletion of stratospheric ozone—we must infer that the Act's general provisions do not cover such global problems. Once again, EPA makes much of very little. While the 1977 Congress did add provisions aimed specifically at ozone depletion, it also made clear that "[n]othing in this [ozone-specific] part shall be construed to alter or affect the authority of the Administrator under . . . any other provision of this Act." Pub. L. No. 95-95, § 158, 91 Stat. 685, 730 (1977); *see also* H.R. Rep. No. 95-294, at 102 (1977) (expressing the House Committee's view that

EPA could already regulate emissions to protect stratospheric ozone under an existing general provision of the CAA). Similarly, I see nothing in the 1990 Congress's enactment of other provisions specific to stratospheric ozone protection, *see* 42 U.S.C. §§ 7671 to 7671q, indicating it thought EPA lacked authority under general provisions like section 202 to regulate emissions contributing to global pollution. This is particularly true since that Congress also enacted provisions specific to certain regional pollutants, *see, e.g., id.* §§ 7651 to 7651o (acid rain control), which, pursuant to general CAA provisions, EPA already had authority to regulate.

EPA also attempts an unworkability argument. Its argument goes like this: another part of the CAA provides that the Administrator shall maintain a list of air pollutants that, among other things, "in [the Administrator's] judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare." *Id.* § 7408(a)(1)(A). Once pollutants go on this list, the Administrator must set national ambient air quality standards (NAAQS) for them, i.e., ambient air concentration levels that, in the Administrator's judgment, "are requisite to protect the public health" and in some areas are "requisite to protect the public welfare." *Id.* § 7409(b); *see also id.* §§ 7407, 7410(a)(1). States must submit plans explaining how they will achieve these NAAQS. *Id.* § 7410. According to EPA, these provisions would be unworkable if applied to CO_2: because CO_2 disperses relatively evenly throughout the lower atmosphere, states would have only minimal control over their atmospheric CO_2 concentrations and thus over whether they meet the CO_2 NAAQS. EPA then concludes that because CO_2 regulation would be unworkable in the NAAQS context, no general CAA provisions, including section 202(a)(1), authorize it to regulate any GHGs.

This unwieldy argument fails. Even assuming that states'

limited ability to meet CO_2 NAAQS renders these provisions unworkable as to CO_2, *but see id.* § 7509a(a) (providing a safe harbor for states that fail to meet NAAQS due to emissions emanating from outside the country), the absurd-results canon would justify at most an exception limited to the particular unworkable provision, i.e., the NAAQS provision. *See Mova Pharm. Corp. v. Shalala*, 140 F.3d 1060, 1068 (D.C. Cir. 1998). As EPA acknowledges, regulating CO_2 emissions from automobiles is perfectly feasible. *See* 68 Fed. Reg. at 52,929 (noting that "improving fuel economy" is a "practical way of reducing tailpipe CO_2 emissions" and that other technologies for reducing emissions may develop in the future).

In support of its third justification for abandoning the plain text of sections 202(a)(1) and 302(g), EPA relies on later congressional action (and inaction). Specifically, EPA points out (1) that all direct references to CO_2 or global warming in the 1990 CAA amendments appear in nonregulatory provisions; (2) that other congressional acts such as the 1978 National Climate Program Act, the 1987 Global Climate Protection Act, the 1990 Global Change Research Act, and the 1992 Energy Policy Act, as well as several appropriations riders, touch specifically on the issue of global warming, typically by instructing agencies to study the issue; and (3) that Congress has considered and rejected many bills specifically tailored to GHG emissions regulation since at least 1990. One might well wonder what all this has to do with whether GHGs are "air pollutants" within the meaning of CAA section 302(g). But relying almost exclusively on *Brown & Williamson*, 529 U.S. 120, EPA claims that together these facts indicate that the CAA's general provisions do not cover GHGs. EPA also asserts that, as in *Brown & Williamson*, the "extraordinary" political and economic significance of the regulation requested casts doubt on the agency's authority to undertake it. *See* Resp't Br. at 21-22.

In *Brown & Williamson*, the Court considered whether the

FDA had authority to regulate tobacco products. Although the Food, Drug, and Cosmetic Act's broad language suggested that it did, the Court, acknowledging that "a specific policy embodied in a later federal statute should control our construction of the [earlier] statute, even though it ha[s] not been expressly amended," 529 U.S. at 143 (quoting *United States v. Estate of Romani*, 523 U.S. 517, 530-31 (1998)) (alterations in original), concluded that the FDA lacked such authority. In reaching this conclusion, the Court relied on a direct, irreconcilable conflict between FDA jurisdiction over tobacco under the FDCA and later statutes expressly regulating tobacco. If the FDA had jurisdiction over tobacco products, it would have had to ban them entirely due to their health risks, yet the subsequent acts "reveal[ed Congress's] intent that tobacco products remain on the market." 529 U.S. at 139. Moreover, as the Court emphasized—at least eighteen times by my count—the FDA had repeatedly claimed to have "no authority under the FDCA to regulate tobacco products," *id.* at 157, and "Congress's tobacco-specific statutes ha[d] effectively ratified the FDA's long-held position," *id.* at 144. *See generally id.* at 125-26, 130-31, 144-46, 151-57.

EPA's reliance on *Brown & Williamson* is misplaced. To begin with, I am unconvinced by EPA's contention that its jurisdiction over GHG emissions would be as significant as FDA jurisdiction over tobacco. Acting under the CAA, EPA already extensively regulates the energy and transportation industries, whereas the FDA had no prior authority over the tobacco industry. Moreover, EPA jurisdiction would lead only to *regulation* of GHGs—with, in the case of section 202, regulation taking effect only *after* "such period as the Administrator finds necessary" for development of technology, "giving appropriate consideration to the cost of compliance," 42 U.S.C. § 7521(a)(2). By contrast, FDA jurisdiction over tobacco would have triggered a total product ban. But even assuming the implications are equally significant, this is not an

"extraordinary" case where "common sense," *see Brown & Williamson*, 529 U.S. at 133, 159, calls into question whether Congress has delegated EPA authority to regulate GHGs. Congress gave EPA broad authority to regulate all harmful pollutants, as section 202(a)(1)'s text makes clear. Congress did so intentionally, deeming it "not appropriate to exempt certain pollutants" from the Act's "comprehensive protections." *See* H.R. Rep. No. 95-294, at 42-43. And, as I explain below, no subsequent statutory indicia comparable to those relied on by the Court in *Brown & Williamson* justify a different conclusion.

Perhaps most significantly, no conflict exists between EPA's section 202(a)(1) authority to regulate GHGs and subsequent global warming legislation. Whereas an FDA ban on tobacco would have directly conflicted with congressional intent that tobacco remain on the market, EPA regulation of GHGs would be fully compatible with statutes proposing additional research and other nonregulatory approaches to climate change. Take the three 1990 CAA additions referencing carbon dioxide or global warming. Section 103(g) calls for "nonregulatory strategies and technologies" for reducing pollutants like sulpher oxides, carbon monoxide, and carbon dioxide. 42 U.S.C. § 7403(g). While the section also provides that "[n]othing in this *subsection* shall be construed to authorize the imposition on any person of air pollution control requirements," *id.* (emphasis added), it nowhere suggests that EPA lacks authority to regulate carbon dioxide—or, for that matter, sulpher oxides, carbon monoxide, and other pollutants—under different parts of the Act. Section 602(e) is similar. One sentence requires the Administrator to "publish the global warming potential" of certain listed substances, and the next sentence notes that "[t]he preceding sentence shall not be construed to be the basis of any additional regulation under this chapter." *Id.* § 7671a(e). Once again, nothing in this provision bars regulation under other parts of the Act. The third provision—an uncodified section—merely requires sources

subject to the Act's Title V to "monitor carbon dioxide emissions," and says nothing about regulation one way or the other. Pub. L. No. 101-549, § 821, 104 Stat. 2399, 2699 (1990). Other climate-related acts similarly demonstrating congressional intent that global climate issues receive study and attention are likewise perfectly compatible with GHG regulation. *See generally* National Climate Program Act of 1978, Pub. L. No. 95-367, 92 Stat. 601; Global Climate Protection Act of 1987, Pub. L. No. 100-204, §§ 1101-1106, 101 Stat. 1331, 1407-09; Global Change Research Act of 1990, Pub. L. No. 101-606, 104 Stat. 3096; Energy Policy Act of 1992, Pub. L. No. 102-486, 106 Stat. 2776.

Furthermore, and unlike subsequent tobacco legislation that "effectively ratified the FDA's previous position," *Brown & Williamson*, 529 U.S. at 156, this subsequent global-warming-related legislation passed without any assurance from EPA that the agency lacked authority to regulate GHGs. Quite to the contrary, at the time of the two appropriations riders relied on by EPA, *see, e.g.*, Pub. L. No. 105-276, 112 Stat. 2461, 2496 (1998) (barring use of funds for implementation of the Kyoto Protocol), EPA was taking the position that it possessed general authority to regulate GHG emissions under section 202(a)(1). *See* Memorandum, J. Cannon to C. Browner (April 10, 1998). Finally, the fact that later Congresses failed to pass bills specifically tailored to regulating global warming hardly provides a basis for inferring that earlier Congresses meant to exclude climate-endangering pollutants from the coverage of the CAA's general provisions. Not only is "subsequent legislative history . . . a 'hazardous basis for inferring the intent of an earlier' Congress," but it "is a particularly dangerous ground . . . when it concerns, as it does here . . . proposal[s] that do[] not become law." *Pension Benefit Guar. Corp. v. LTV Corp.*, 496 U.S. 633, 650 (1990) (citation omitted). Indeed, in interpreting the scope of the FDA's authority, the *Brown & Williamson* Court itself expressly declined to rely on failed legislation. 529

U.S. at 155.

EPA has one last argument, applicable to CO_2 emissions alone, for claiming it lacks the authority the language of sections 202(a)(1) and 302(g) expressly bestow upon it. According to EPA, the only practical way to regulate CO_2 emissions from motor vehicles is to require increased fuel economy, since CO_2 is a byproduct of fuel combustion and "[n]o technology currently exists or is under development that can capture and destroy or reduce" CO_2 "emissions from motor vehicle tailpipes." 68 Fed. Reg. at 52,929. Such regulation, EPA reasons, would overlap substantially with DOT's authority under the 1975 Energy Policy and Conservation Act (EPCA) to set average fuel economy standards for certain classes of motor vehicles. *See* Pub. L. No. 94-163, § 502, 89 Stat. 871, 902-07 (1975). Though recognizing that no direct conflict would occur since both agencies would set minimum standards, EPA concludes that "any EPA effort to set CO_2 tailpipe emissions under the CAA would either abrogate EPCA's regime (if the standards were effectively more stringent than the applicable [DOT] standard) or be meaningless (if they were effectively less stringent)." 68 Fed. Reg. at 52,929.

EPA may well be correct that setting standards for fuel economy (rather than for capturing tailpipe emissions) represents its only currently practical option for regulating CO_2 emissions. *But cf.* 42 U.S.C. § 7521(a)(2) (requiring section 202(a)(1) regulation to take effect only "after such period as the Administrator finds necessary to permit the development and application of the requisite technology"). But given that the two regulatory regimes—one targeted at fuel conservation and the other at pollution prevention—are overlapping, not incompatible, there is no reason to assume that Congress exempted CO_2 from the meaning of "air pollutant" within the CAA, particularly since section 103(g) explicitly calls CO_2 an "air pollutant." Where two "statutes are 'capable of co-

existence,' it becomes the *duty* of this court 'to regard each as effective'—at least absent clear congressional intent to the contrary." *FTC v. Ken Roberts Co.*, 276 F.3d 583, 593 (D.C. Cir. 2001) (quoting *Morton v. Mancari*, 417 U.S. 535, 551 (1974)). Moreover, Congress acknowledged, and indeed accepted, the possibility of regulatory overlap. Not only does the current EPCA recognize the relevance of "the effect of other motor vehicle standards of the Government on fuel economy," 49 U.S.C. § 32902(f); *see also* EPCA, Pub. L. No. 94-163, § 502(e), 89 Stat. at 905, but in passing the 1977 CAA amendments Congress emphasized that EPA regulation under the CAA should go forward even where it overlaps with responsibilities given to other agencies under other acts, *see* H.R. Rep. No. 95-294, at 42-43 (explaining that Congress was amending section 302(g) to broaden the meaning of "air pollutants" and make clear that EPA has authority even over pollutants already regulated by another agency). As the 1977 House Report explained, "the Clean Air Act is the comprehensive vehicle for protection of the Nation's health from air pollution. In the committee's view, it is not appropriate to exempt certain pollutants or certain sources from the comprehensive protections afforded by the Clean Air Act." *Id.*

In sum, GHGs plainly fall within the meaning of "air pollutant" in section 302(g) and therefore in section 202(a)(1). If "in [the Administrator's] judgment" they "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare," 42 U.S.C. § 7521(a)(1), then EPA has authority—indeed, the obligation—to regulate their emissions from motor vehicles.

IV.

EPA's second reason for refusing to act—what EPA's counsel termed "the fallback argument," Tr. of Oral Arg. at 41—is that even if GHGs are air pollutants, the agency gave

appropriate reasons and acted within its discretion in denying the petition for rulemaking. EPA stresses that our "arbitrary and capricious" standard of review is particularly deferential in reviewing an agency refusal to institute rulemaking. *See* Resp't Br. at 11-12; *cf. Motor Vehicle Mfrs. Ass'n v. EPA*, 768 F.2d 385, 389 n.6 (D.C. Cir. 1985) (observing that the CAA judicial review provisions are identical to those in the APA). This is certainly true, but this court must nonetheless "consider whether the agency's decisionmaking was reasoned," and we will not permit the agency to make "plain errors of law." *See Am. Horse Protection Ass'n, Inc. v. Lyng*, 812 F.2d 1, 5 (D.C. Cir. 1987) (internal quotation marks omitted). Indeed, "the agency has the heaviest of obligations to explain and expose every step of its reasoning," so that we can "exercis[e] our responsibility to determine whether [its] decision is 'arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.'" *See Am. Lung Ass'n v. EPA*, 134 F.3d 388, 392-93 (D.C. Cir. 1998) (quoting 42 U.S.C. § 7607(d)(9)) (reviewing EPA's denial of a petition to revise a NAAQS).

In my view, EPA has failed to satisfy this standard. Indeed, reading the relevant sections of EPA's petition denial—one titled "No Mandatory Duty," another "Different Policy Approach," and a third "Administration Global Climate Change Policy," *see* 68 Fed. Reg. at 52,929, 52,931—I find it difficult even to grasp the basis for EPA's action. In its brief, EPA describes the petition denial as claiming that if the agency thinks regulating GHGs is a bad idea, the Administrator has discretion to withhold making a "judgment," known as an "endangerment finding," that GHG emissions "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare," *see* 42 U.S.C. § 7521(a)(1). Yet the denial itself seems to rest more clearly (albeit still not clearly) on a belief that even if the Administrator makes an endangerment finding, that finding triggers no duty to set emission standards. In the end, though, it makes no difference

whether one or both rationales are genuinely given in the petition denial or whether they instead amount to post hoc rescue attempts. As I explain below, neither rationale is acceptable in light of section 202(a)(1)'s mandate.

EPA's Discretion to Make an Endangerment Finding

In the petition denial, EPA states:

> [T]he CAA provision authorizing regulation of motor vehicle emissions does not impose a mandatory duty on the Administrator to exercise her judgment. Instead, section 202(a)(1) provides the Administrator with discretionary authority to address emissions .... While section 202(a)(1) uses the word 'shall,' it does not require the Administrator to act by a specified deadline and it conditions authority to act on a discretionary exercise of the Administrator's judgment regarding whether motor vehicle emissions cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare.

68 Fed. Reg. at 52,929. Expounding on this passage, EPA argues in its brief that "[t]he ICTA Petition Denial reflects EPA's decision not to make *any* endangerment finding—either affirmative or negative—under section 202(a)(1)." Resp't Br. at 62-63. In EPA's view, "the Agency's authority to make the threshold finding is discretionary" and petitioners err in suggesting that "if the statutory test for making the finding is met, EPA has no choice but to set standards." *Id.* at 57 (internal quotation marks omitted).

EPA's brief also turns several policy concerns raised in other portions of its petition denial into rationales for holding off examining endangerment. These concerns include the following: (1) "there continue to be important uncertainties in our understanding of the factors that may affect future climate change and how it should be addressed"; (2) petitioners

identified no technologies for reducing CH_4, N_2O, and HFC emissions, and technologies for reducing CO_2 emissions either overlap with DOT's authority or require further development; (3) regulation "would also result in an inefficient, piecemeal approach to addressing the climate change issue," as the "U.S. motor vehicle fleet is one of many sources of GHG emissions both here and abroad"; (4) "[u]nilateral EPA regulation of motor vehicle GHG emissions could also weaken U.S. efforts to persuade key developing countries to reduce the GHG intensity of their economies"; and (5) "EPA disagrees with the regulatory approach urged by petitioners," instead preferring "a number of nonregulatory approaches to reducing GHG emissions" in line with "the President's global climate change policy" of "support[ing] vital global climate research and lay[ing] the groundwork for future action by investing in science, technology, and institutions." *See* 68 Fed. Reg. at 52,929-33.

EPA's reasoning is simply wrong. In effect, EPA has transformed the limited discretion given to the Administrator under section 202—the discretion to determine whether or not an air pollutant causes or contributes to pollution which may reasonably be anticipated to endanger public health or welfare—into the discretion to withhold regulation because it thinks such regulation bad policy. But Congress did not give EPA this broader authority, and the agency may not usurp it.

Section 202(a)(1)'s language—the "Administrator shall by regulation prescribe . . . standards applicable to the emission of any air pollutant from . . . new motor vehicles . . . which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare," 42 U.S.C. § 7521(a)(1)—establishes the limits of EPA's discretion. This section gives the Administrator the discretion only to "judg[e]," within the bounds of substantial evidence, whether pollutants "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or

welfare." If conflicting credible evidence exists, e.g., some evidence suggesting that GHGs may reasonably be anticipated to endanger welfare and other evidence suggesting the opposite, then the Administrator has discretion in weighing this evidence. If the facts are known but require no single conclusion as to whether a pollutant "may reasonably be anticipated to endanger public health or welfare"—such as in a case where there exists a small-to-moderate risk that a pollutant will cause a small-to-moderate amount of harm—then the Administrator has discretion in assessing whether these facts amount to endangerment. If the Administrator concludes based on substantial evidence that more research is needed before he can judge whether GHGs may reasonably be anticipated to endanger welfare, then he has discretion to hold off making a finding.

But section 202(a)(1) plainly limits the Administrator's discretion—his judgment—to determining whether the statutory standard for endangerment has been met. The Administrator has no discretion either to base that judgment on reasons unrelated to this standard or to withhold judgment for such reasons. In claiming otherwise, EPA not only ignores the statute's language, but also fails to reckon with this circuit's related precedent.

Our en banc decision in *Natural Resources Defense Council, Inc. v. EPA*, 824 F.2d 1146 (D.C. Cir. 1987), makes clear that the Administrator may only exercise "judgment" in evaluating whether the statutory standard has been met. There, considering a CAA provision authorizing the Administrator to set emission standards "at the level which in his judgment provides an ample margin of safety to protect the public health," 42 U.S.C. § 7412(b)(1)(B) (1982) (quoted in 824 F.2d at 1147), we held that the Administrator had to base his determination on what level would "provide an 'ample margin of safety.'" *See* 824 F.2d at 1164-65. We struck down his proposed standards because he failed to ground them in the statute. *See id.* at 1163-64 ("[T]he Administrator has made no finding with respect to

the effect of the chosen level of emissions on health. . . . Nowhere in the decision did the Administrator state that the 1976 emission standards provide an 'ample margin of safety.'").

Similarly, in *Ethyl Corp. v. EPA*, 541 F.2d 1 (D.C. Cir. 1976) (en banc), we considered whether EPA appropriately linked its policy analysis to the statutory standard. That case involved EPA's decision to regulate leaded gasoline pursuant to CAA section 211(c)(1)(A), 42 U.S.C. § 1857f-6c(1)(A) (1976), *currently codified as amended at* 42 U.S.C. § 7545(c)(1)(A), which at that time provided that the Administrator "may" regulate fuel additives "if any emission products of such . . . fuel additive[s] will endanger the public health or welfare." Determining that lead in gasoline presented "'a significant risk of harm' to the public health," 541 F.2d at 7, EPA regulated it. Industry petitioners objected, claiming that the Administrator needed "proof of actual harm rather than of 'a significant risk of harm.'" *Id.* at 12. Siding with EPA, we held that the agency had discretion in determining what level of harm—or risk of harm—constitutes endangerment. *Id.* We indicated that such determinations involve policy issues, but—as Judge Randolph neglects to mention, *see* op. of Randolph, J., at 13—these policy issues all related to whether the statutory standard had been met, i.e., to whether lead in gasoline endangered public health. *See, e.g.*, 541 F.2d at 24 (observing that "a determination of endangerment to public health is necessarily a question of policy that is to be based on an assessment of risks and that should not be bound by either the procedural or the substantive rigor proper for questions of fact"); *id.* at 26 (noting that "the statute accords the regulator flexibility to assess risks and make essentially legislative policy judgments"). Indeed, *Ethyl* makes quite clear that the Administrator's policy-based discretion is limited to the terms of the statute. "All this is not to say that Congress left the Administrator free to set policy on his own terms. To the contrary, the policy guidelines are largely set, both in the statutory term 'will endanger' and in the relationship of that

term to other sections of the Clean Air Act. These prescriptions direct the Administrator's actions." *Id.* at 29; *cf. Brown & Williamson*, 529 U.S. at 140 (noting that the FDA's "judgment" about how best to achieve public health goals is "no substitute for the specific safety determinations required by the FDCA's various operative provisions").

In yet another case, *Her Majesty the Queen in Right of Ontario v. EPA*, 912 F.2d 1525 (D.C. Cir. 1990), we held that for EPA to decline to make an endangerment finding, it must have a statutorily based reason for doing so. The CAA section at issue provided that when the Administrator had "reason to believe that any air pollutant or pollutants emitted in the United States cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare in a foreign country . . . , the Administrator shall give formal notice thereof to the Governor of the State in which such emissions originate." *Id.* at 1527-28 (quoting 42 U.S.C. § 7415(a) (1982)) (omission in original). Petitioners alleged that the Administrator acted unreasonably in holding off making an endangerment finding as to acid rain, which strong evidence (including informal EPA statements) indicated was coming from the United States and endangering Canadian welfare. *Id.* at 1529. We held that EPA acted reasonably in postponing a formal endangerment finding *only* because it gave a reasonable statutory basis for doing so. Specifically, because EPA still lacked information as to which states were causing the harmful acid rain, it would have been "pointless" for the agency to make an endangerment finding given the "specific [statutory] linkage between the endangerment finding and the remedial procedures," i.e., notifying offending states. *Id.* at 1533. "For this reason," we found EPA's decision to postpone an endangerment finding "both reasonable and consistent with the statute." *Id.*

In short, EPA may withhold an endangerment finding only if it needs more information to determine whether the statutory

standard has been met. Similarly, for EPA to find no endangerment (as Judge Randolph, going beyond the agency's own arguments, appears to claim happened here, *see* op. of Randolph, J., at 13, 15), it must ground that conclusion in the statutory standard and may not rely on unrelated policy considerations.

The statutory standard, moreover, is precautionary. At the time we decided *Ethyl*, section 202(a)(1) and similar CAA provisions either authorized or required the Administrator to act on finding that emissions led to "air pollution *which endangers* the public health or welfare." *See* 42 U.S.C. § 1857f-1(a)(1) (1976) (emphasis added). After Ethyl found that "the statutes and common sense *demand* regulatory action to prevent harm, even if the regulator is less than certain that harm is otherwise inevitable," *Ethyl*, 541 F.2d at 25 (emphasis added), the 1977 Congress not only approved of this conclusion, *see* H.R. Rep. No. 95-294, at 49, but also wrote it into the CAA. Section 202(a)(1) (along with other provisions, *see* H.R. Rep. No. 95-294, at 50) now requires regulation to precede certainty. It requires regulation where, in the Administrator's judgment, emissions "contribute to air pollution *which may reasonably be anticipated to endanger* public health or welfare." 42 U.S.C. § 7521(a)(1) (emphasis added). As the House Report explained: "In order to emphasize the precautionary or preventative purpose of the act (and, therefore, the Administrator's *duty* to assess risks rather than wait for proof of actual harm), the committee not only retained the concept of endangerment to health; the committee also added the words 'may reasonably be anticipated to.'" H.R. Rep. No. 95-294, at 51 (emphasis added).

Given this framework, it is obvious that none of EPA's proffered policy reasons justifies its refusal to find that GHG emissions "contribute to air pollution which may reasonably be anticipated to endanger public health or welfare." Unlike in *Her Majesty the Queen*, EPA's proffered reasons for refusing to

make an endangerment finding have no connection to the statutory standard. Instead, as in *Natural Resources Defense Council* (where we found EPA to have acted arbitrarily and capriciously), EPA has "ventured into a zone of impermissible action" by "simply substitut[ing]" freestanding policy concerns for the sort of evaluation required by the statute. *See* 824 F.2d at 1163. A look at these policy concerns proves the point.

First, EPA claims that global warming still has many scientific uncertainties associated with it. *See* 68 Fed. Reg. at 52,930-31; *see also* op. of Randolph, J., at 11-13. In this regard, EPA makes much of the NRC's statements that a link between human-caused atmospheric GHG concentration increases and this past century's warming "cannot be unequivocally established"; that "a wide range of uncertainty" remains "inherent in current model predictions" due to imprecise variables like future emissions rates, climate sensitivity, and the forcing effects of aerosols; and that "current estimate [sic] of the magnitude of future warming should be regarded as tentative and subject to future adjustments (either upward or downward)." *See* 68 Fed. Reg. at 52,930 (quoting NRC Rep. at 1, 17); *see also* op. of Randolph, J., at 11-13. But the CAA nowhere calls for proof. It nowhere calls for "unequivocal" evidence. Instead, it calls for the Administrator to determine whether GHGs "contribute to air pollution which *may reasonably be anticipated* to endanger" welfare. EPA never suggests that the uncertainties identified by the NRC Report prevent it from determining that GHGs "may reasonably be anticipated to endanger" welfare. In other words, just as EPA failed in *Natural Resources Defense Council* to explain its chosen emissions level in light of the statutory standard, so the agency has failed here to explain its refusal to find endangerment in light of the statutory standard.

EPA's silence on this point is telling. Indeed, looking at the NRC Report as a whole, I doubt EPA could credibly conclude that it needs more research to determine whether GHG-caused

global warming "may reasonably be anticipated to endanger" welfare. Though not offering certainty, the report demonstrates that matters are well within the "frontiers of scientific knowledge," *see* op. of Randolph, J., at 15 (quoting *Envtl. Def. Fund v. EPA*, 598 F.2d 62, 82 (D.C. Cir. 1978)). The report also indicates that the projected consequences of global warming are serious. Because neither EPA nor Judge Randolph acknowledges, let alone evaluates, these projected effects, I quote the NRC's discussion of the "Consequences of Increased Climate Change of Various Magnitudes" in its entirety.

> The U.S. National Assessment of Climate Change Impacts, augmented by a recent NRC report on climate and health, provides a basis for summarizing the potential consequences of climate change. The National Assessment directly addresses the importance of climate change of various magnitudes by considering climate scenarios from two well-regarded models (the Hadley model of the United Kingdom and the Canadian Climate Model). These two models have very different globally-averaged temperature increases (2.7 and 4.4° C (4.9 and 7.9° F), respectively) by the year 2100. A key conclusion from the National Assessment is that U.S. society is likely to be able to adapt to most of the climate change impacts on human systems, but these adaptations may come with substantial cost. The primary conclusions from these reports are summarized for agriculture and forestry, water, human health, and coastal regions.
>
> In the near term, agriculture and forestry are likely to benefit from CO_2 fertilization effects and the increased water efficiency of many plants at higher atmospheric CO_2 concentrations. Many crop distributions will change, thus requiring significant regional adaptations. Given their resource base, the Assessment concludes that such changes will be costlier for small farmers than for large corporate

farms. However, the combination of the geographic and climatic breadth of the United States, possibly augmented by advances in genetics, increases the nation's robustness to climate change. These conclusions depend on the climate scenario, with hotter and drier conditions increasing the potential for declines in both agriculture and forestry. In addition, the response of insects and plant diseases to warming is poorly understood. On the regional scale and in the longer term, there is much more uncertainty.

Increased tendency towards drought, as projected by some models, is an important concern in every region of the United States even though it is unlikely to be realized everywhere in the nation. Decreased snow pack and/or earlier season melting are expected in response to warming because the freeze line will be moving to higher elevations. The western part of the nation is highly dependent on the amount of snow pack and the timing of the runoff. The noted increased rainfall rates have implications for pollution run-off, flood control, and changes to plant and animal habitat. Any significant climate change is likely to result in increased costs because the nation's investment in water supply infrastructure is largely tuned to the current climate.

Health outcomes in response to climate change are the subject of intense debate. Climate change has the potential to influence the frequency and transmission of infectious disease, alter heat- and cold-related mortality and morbidity, and influence air and water quality. Climate change is just one of the factors that influence the frequency and transmission of infectious disease, and hence the assessments view such changes as highly uncertain. This said, changes in agents that transport infectious diseases (e.g., mosquitoes, ticks, rodents) are likely to occur with any significant change in precipitation and temperature.

Increases in mean temperatures are expected to result in new record high temperatures and warm nights and an increase in the number of warm days compared to the present. Cold-related stress is likely to decline whereas heat stress in major urban areas is projected to increase if no adaptation occurs. The National Assessment ties increases in adverse air quality to higher temperatures and other air mass characteristics. However, much of the United States appears to be protected against many different adverse health outcomes related to climate change by a strong public health system, relatively high levels of public awareness, and a high standard of living. Children, the elderly, and the poor are considered to be the most vulnerable to adverse health outcomes. The understanding of the relationships between weather/climate and human health is in its infancy and therefore the health consequences of climate change are poorly understood. The costs, benefits, and availability of resources for adaptation are also uncertain.

Fifty-three percent of the U.S. population lives within the coastal regions, along with billions of dollars in associated infrastructure. Because of this, coastal areas are more vulnerable to increases in severe weather and sea level rise. Changes in storm frequency and intensity are one of the more uncertain elements of future climate change prediction. However, sea level rise increases the potential damage to coastal regions even under conditions of current storm intensities and can endanger coastal ecosystems if human systems or other barriers limit the opportunities for migration.

In contrast to human systems, the U.S. National Assessment makes a strong case that ecosystems are the most vulnerable to the projected rate and magnitude of climate change, in part because the available adaptation

> options are very limited. Significant climate change will cause disruption to many U.S. ecosystems, including wetlands, forests, grasslands, rivers, and lakes. Ecosystems have inherent value, and also supply the country with a wide variety of ecosystem services.
>
> The impacts of these climate changes will be significant, but their nature and intensity will depend strongly on the region and timing of the occurrence. At a national level, the direct economic impacts are likely to be modest. However, on a regional basis the level and extent of both beneficial and harmful impacts will grow. Some economic sectors may be transformed substantially and there may be significant regional transitions associated with shifts in agriculture and forestry. Increasingly, climate change impacts will have to be placed in the context of other stresses associated with land use and a wide variety of pollutants. The possibility of abrupt or unexpected changes could pose greater challenges for adaptation.
>
> Even the mid-range scenarios considered in the IPCC result in temperatures that continue to increase well beyond the end of this century, suggesting that assessments that examine only the next 100 years may well underestimate the magnitude of the eventual impacts. For example a sustained and progressive drying of the land surface, if it occurred, would eventually lead to desertification of regions that are now marginally arable, and any substantial melting or breaking up of the Greenland and Antarctic ice caps could cause widespread coastal inundation.

NRC Rep. at 19-20 (footnotes omitted). I have grave difficulty seeing how EPA, while treating the NRC Report as an "objective and independent assessment of the relevant science," 68 Fed. Reg. at 52,930, could possibly fail to conclude that global warming "may reasonably be anticipated to endanger public health or welfare," 42 U.S.C. § 7521(a)(1), with effects

on welfare including "effects on soil, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being," *id.* § 7602(h). It thus comes as no surprise that EPA's petition denial not only undertakes none of the risk assessments described in *Ethyl*, 541 F.2d at 28 & n.58, but also utterly ignores the statutory standard.

EPA similarly fails to link its second policy justification—that setting fuel economy standards represents the only currently available way to regulate CO_2 emissions and petitioners "make no suggestion[s]" for how to reduce CH_4, N_2O, and HFC emissions, 68 Fed. Reg. at 52,931—with the statutory standard. As discussed earlier, *supra* at 21-22, the fact that DOT sets fuel economy standards pursuant to the EPCA in no way prevents EPA from setting standards pursuant to the CAA. It is true that DOT has recently increased fuel economy standards for light trucks, *see* 68 Fed. Reg. at 52,931; *see also* op. of Randolph, J., at 14—a fact EPA did not even bother to mention in its brief—but unless DOT's action affects whether GHGs "contribute to air pollution which may reasonably be anticipated to endanger public health or welfare," it provides no support for EPA's decision.

As to EPA's point about other GHGs, it may well be that no current technologies exist for reducing their emissions. But once again, this has nothing at all to do with the statutory endangerment standard. Indeed, in section 202(a)(2), Congress has made it crystal clear that endangerment findings must not wait on technology.

> Any regulation prescribed under paragraph (1) of this subsection (and any revision thereof) shall take effect after such period as the Administrator finds necessary to permit the development and application of the requisite

> technology, giving appropriate consideration to the cost of compliance within such period.

42 U.S.C. § 7521(a)(2). As the Senate Report explained, EPA "is expected to press for the development and application of improved technology rather than be limited by that which exists." S. Rep. No. 91-1196, at 24 (1970); *see also Natural Res. Def. Council, Inc. v. EPA*, 655 F.2d 318, 328 (D.C. Cir. 1981) (referencing this legislative history). In refusing to make an endangerment finding because it lacks currently available technology for controlling these emissions, EPA goes well beyond the bounds of its statutory discretion.

EPA's final policy reasons likewise fail. Because other domestic and foreign sources contribute to atmospheric GHG concentrations, GHG regulation might well "result in an inefficient, piecemeal approach to addressing the climate change issue," 68 Fed. Reg. at 52,931. But again, Congress has expressly demanded such an approach. Section 202(a)(1) requires EPA to regulate if it judges that U.S. motor vehicle emissions "cause, or *contribute to*, air pollution," 42 U.S.C. § 7521(a)(1) (emphasis added); *see also Ethyl*, 541 F.2d at 29-31 (holding that the same language from section 211 plainly means that emissions merit regulation even if they are not the only source of air pollution). EPA (understandably) offers no basis for thinking that U.S. automobile emissions are not *contributing* to global warming. Indeed, why would the "Administration's global climate change policy plan support[] increasing automobile fuel economy," *see* 68 Fed. Reg. at 52,933, if motor vehicle emissions were contributing nothing to global warming? Similarly, EPA's concern that regulation could weaken U.S. negotiating power with other nations has nothing at all to do with whether GHGs contribute to welfare-endangering air pollution. Finally, while EPA obviously prefers nonregulatory approaches to regulatory ones, *see id.* at 52,932-33, Congress gave the Administrator discretion only in assessing whether

global warming "may reasonably be anticipated to endanger" welfare, not "free[dom] to set policy on his own terms," *Ethyl*, 541 F.2d at 29.

In short, EPA has utterly failed to relate its policy reasons to section 202(a)(1)'s standard. Indeed, nowhere in its policy discussion does EPA so much as mention this standard—"may reasonably be anticipated to endanger public health or welfare." *See* 68 Fed. Reg. at 52,929-33 (the sections titled "Different Policy Approach" and "Administration Global Climate Change Policy"). EPA apparently dislikes the fact that section 202(a)(1) says the Administrator "shall" regulate—rather than "may" regulate—on making an endangerment finding. But EPA cannot duck Congress's express directive by declining to evaluate endangerment on the basis of policy reasons unrelated to the statutory standard. Although EPA is free to take its policy concerns to Congress and seek a change in the Clean Air Act, it must obey the law in the meantime.

EPA's Discretion After Making an Endangerment Finding

Alternatively, EPA may have believed that even if it made an endangerment finding, it had no obligation to regulate GHG emissions. The petition denial states,

> EPA also disagrees with the premise of the petitioners' claim—that if the Administrator were to find that GHGs, in general, may reasonably be anticipated to endanger public health or welfare, she must necessarily regulate GHG emissions from motor vehicles. Depending on the particular problem, motor vehicles may contribute more or less or not at all. An important issue before the Administrator is whether, given motor vehicles' relative contribution to a problem, it makes sense to regulate them. . . . The discretionary nature of the Administrator's section 202(a)(1) authority allows her to consider these important policy issues and decide to regulate motor vehicle

> emissions as appropriate to the air pollution problem being addressed. Accordingly, even were the Administrator to make a formal finding regarding the potential health and welfare effects of GHGs in general, section 202(a)(1) would not require her to regulate GHG emission from motor vehicles.

68 Fed. Reg. at 52,929. This passage is puzzling. Motor vehicles emit GHGs in significant quantities, *see* U.S. Dep't of State, *U.S. Climate Action Report 2002*, at 40—a point EPA nowhere contests. The statute clearly states that the Administrator "*shall* by regulation prescribe . . . standards" governing the emissions of air pollutants from motor vehicles if the Administrator makes an endangerment finding regarding these pollutants. 42 U.S.C. § 7521(a)(1) (emphasis added). *Compare id.* § 7545(c)(1)(A) (using "may"). Refusing to regulate following an endangerment finding would violate the law. Indeed, EPA appears to have abandoned this argument. In a (rare) concession to the Act's text, EPA counsel acknowledged at oral argument, "I don't think that we would contest that if the agency had made an endangerment finding, that then you would have to give some significance to the term 'shall' in [section] 202(a)." Tr. of Oral Arg. at 44.

V.

Although this case comes to us in the context of a highly controversial question—global warming—it actually presents a quite traditional legal issue: has the Environmental Protection Agency complied with the Clean Air Act? For the reasons given above, I believe that EPA has both misinterpreted the scope of its statutory authority and failed to provide a statutorily based justification for refusing to make an endangerment finding. I would thus grant the petitions for review.

[EPA Denial of Rulemaking Petition]

[68 Fed.Reg. 52922 (September 8, 2003)]

ENVIRONMENTAL PROTECTION AGENCY

[FRL -7554-7]

Control of Emissions from New Highway Vehicles and Engines

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of denial of petition for rulemaking.

SUMMARY: A group of organizations petitioned EPA to regulate emissions of carbon dioxide and other greenhouse gases from motor vehicles under the Clean Air Act. For the reasons provided below, EPA is denying the petition.

EFFECTIVE DATE: September 8, 2003.

ADDRESSES: Information relevant to this action is contained in Docket No. A-2000-04 at the EPA Docket Center, Public Reading Room, Room B102, EPA West Building, 1301 Constitution Avenue, N.W., Washington, D.C. Dockets may be inspected at this location from 8:30 a.m. to 4:30 p.m., Monday through Friday, except on government holidays. You can reach the Air Docket by telephone at (202) 566-1742 and by facsimile at (202) 566-1741. You may be charged a reasonable fee for photocopying docket materials, as provided in 40 CFR Part 2.

FOR FURTHER INFORMATION CONTACT: Chitra Kumar, Office of Air and Radiation, (202) 564-7413.

SUPPLEMENTAL INFORMATION

I. Background

On October 20, 1999, the International Center for Technology Assessment (ICTA) and a number of other organizations[1] petitioned EPA to regulate certain greenhouse gas

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[1] Alliance for Sustainable Communities, Applied Power Technologies, Bio Fuels America, California Solar Energy Industries Association, Clements Environmental Corporation, Environmental Advocates, Environmental and Energy Study Institute, Friends of the Earth, Full Circle Energy Project, Green

(GHG) emissions from new motor vehicles and engines under section 202(a)(1) of the Clean Air Act (CAA). Specifically, petitioners seek EPA regulation of carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and hydrofluorocarbon (HFCs) emissions from new motor vehicles and engines. Petitioners claim these emissions are significantly contributing to global climate change.

EPA is authorized to regulate air pollutants from motor vehicles under title II of the CAA. In particular, section 202(a)(1) provides that "the Administrator [of EPA] shall by regulation prescribe * * * in accordance with the provisions of [section 202], standards applicable to the emission of any air pollutant from any class or classes of new motor vehicle * * *, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare."

II. Summary of the Petition

Petitioners contend the test for regulating motor vehicle emissions under CAA section 202(a)(1) has been met for CO_2, CH_4, N_2O and HFCs. They claim statements made on EPA's website and in other documents constitute an Agency finding that the four GHGs may reasonably be anticipated to endanger public health or welfare. They also assert that motor vehicle emissions of the GHGs could be significantly reduced by increasing the fuel economy of vehicles, eliminating tailpipe emissions altogether, or using other current and developing technologies. Based on their analysis, they argue that EPA has a mandatory duty under section 202(a)(1) to regulate emissions of GHGs from motor vehicles.

Petitioners present their case for why EPA should, and even must, regulate motor vehicle GHG emissions under section 202(a)(1) in four parts. First, they assert that anthropogenic emissions of CO_2, CH_4, N_2O and HFCs meet the CAA section 302(g) definition of "air pollutant," which is "any air pollution agent or combination of such agents, including any physical,

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Party of Rhode Island, Greenpeace USA, Network for Environmental and Economic Responsibility of the United Church of Christ, New Jersey Environmental Watch, New Mexico Solar Energy Association, Oregon Environmental Council, Public Citizen, Solar Energy Industries Association, SUN DAY Campaign.

chemical, biological, radioactive * * * substance or matter which is emitted into or otherwise enters ambient air. Such term includes any precursors to the formation of any air pollutant * * * ." Citing international and national reports, petitioners contend that anthropogenic emissions of CO_2, CH_4, N_2O and HFCs are accelerating global warming, and that motor vehicle emissions of these GHGs, particularly CO_2, significantly contribute to the U.S. GHG inventory. Petitioners argue that the contribution of motor vehicle GHG emissions to global climate change qualify them as "air pollutants" under the CAA.

Petitioners also claim that EPA has already determined CO_2 to be an air pollutant. They cite an April 10, 1998 memorandum from Jonathan Z. Cannon, then General Counsel of EPA, to Carol Browner, then Administrator of EPA, entitled "EPA's Authority to Regulate Pollutants Emitted by Electric Power Generation Sources" (hereinafter "Cannon Memorandum"). The memorandum states that sulfur dioxide, nitrogen oxides, mercury, and CO_2 emitted from electric power generating units fall within the definition of "air pollutant" under CAA section 302(g). According to petitioners, it follows from the memorandum that the other three GHGs meet the CAA definition of "air pollutant," too.

Second, petitioners argue that GHG emissions contribute to pollution that "may reasonably be anticipated to endanger public health or welfare," a key criterion for regulation under section 202(a)(1). Petitioners state that the CAA does not require proof of actual harm, but allows the Administrator to make a precautionary decision to regulate an air pollutant if it "may reasonably be anticipated" to endanger public health or welfare. The petitioners point to statements made by the United Nations Intergovernmental Panel on Climate Change (IPCC), EPA and others about the potential effects of global climate change on public health and welfare as establishing that global climate change "may reasonably be anticipated to endanger public health and welfare." Based on these statements, the petitioners allege numerous threats to public health and welfare.

Third, petitioners argue that it is technically feasible to reduce GHG emissions from new motor vehicles and engines. In particular, they note that CO_2 emissions can be reduced by increasing the fuel economy of passenger cars and light trucks, and

that a number of currently available gasoline-powered cars get significantly better fuel economy than the 27.5 mpg corporate average fuel economy (CAFE) standard currently applicable to cars under federal law. They also point to a congressional report identifying other technologies for further improving the fuel economy of gasoline-powered cars that have yet to be fully employed. In addition, petitioners note that several foreign and domestic car manufacturers are already marketing or developing hybrid-electric vehicles that get significantly better fuel mileage than the most fuel-efficient gasoline-powered car. Looking ahead to the next generation of vehicle technology, petitioners describe the potential for electric and hydrogen-celled vehicles to eliminate tailpipe emissions altogether. Petitioners recommend that EPA set a "corporate average fuel-economy based standard" under CAA section 202 that would result in the rapid market introduction of more fuel-efficient and zero-emission vehicles.

Petitioners suggest other potential ways of reducing CO_2 emissions such as setting a declining fleet average NOx emission standard that would require manufacturers to add zero-emission vehicles to their fleets. They also note the availability of tire efficiency standards. Petitioners do not, however, address the potential for reducing motor vehicle emissions of the other three GHGs.

Finally, petitioners maintain that the Administrator has a mandatory duty to regulate motor vehicle GHG emissions under CAA section 202(a)(1). They contend that EPA has "already made formal findings" that motor vehicle GHG emissions "pose[] actual or potential harmful effects [on] the public health and welfare." Noting that section 202(a)(1) provides the Administrator "shall" prescribe motor vehicle standards, petitioners argue that the use of "shall" creates a mandatory duty to promulgate standards when the requisite findings are made. They accordingly claim that the Administrator must establish motor vehicle standards for the four GHGs.

Petitioners further argue that "the precautionary purpose of the CAA supports" regulating these gases even if the Agency believes there is some scientific uncertainty regarding the actual impacts of global climate change. Petitioners cite several court cases recognizing the Administrator's authority to err on the side of caution in making decisions in areas of scientific uncertainty.

They also assert that scientific uncertainty does not excuse a mandatory duty to regulate.

III. Request for Comment

On January 23, 2001, EPA requested public comment on the petition (see 66 FR 7486). The public comment period ended May 23, 2001.

EPA requested comment on all the issues raised in ICTA's petition. In particular, EPA requested comment on any scientific, technical, legal, economic or other aspect of these issues that may be relevant to EPA's consideration of the petition.

IV. Summary of Public Comments

EPA received almost 50,000 comments on the petition. Most comments were relatively brief expressions of support for the petition sent by electronic mail; many were virtually identical. EPA also heard from a number of business and environmental groups. Most of the comments focused exclusively on CO_2. This section describes the significant points and arguments made in the public comments.

Several commenters addressed the issue of whether the four GHGs–CO_2, CH_4, N_2O and HFCs–are "air pollutants" under the CAA and thus potentially subject to regulation under the Act. Some of the commenters agreed with the petitioners that GHGs are air pollutants under the CAA. Like the petitioners, they noted that the definition of "air pollutant" in CAA section 302(g) is very broad and that the CAA itself refers to CO_2 as an "air pollutant" (see CAA section 103(g)). These commenters also cited to and agreed with the Cannon Memorandum and statements by Gary Guzy, EPA's General Counsel following Mr. Cannon, that CO_2 falls within the CAA definition of air pollutant.

Other commenters argued that EPA has never formally determined that any GHGs are air pollutants and that the Cannon Memorandum is not such a finding. Some commenters also argued that CO_2 is not an air pollutant because it is a naturally-occurring substance in Earth's atmosphere and is critical to sustaining life. Other commenters pointed out that EPA already regulates as air pollutants substances that have natural as well as anthropogenic sources where human activities have increased the quantities present in the air to levels harmful to public health, welfare or the

environment (e.g., sulfur dioxide, volatile organic compounds, particulate matter).

Another issue of concern to commenters was whether EPA has authority to regulate motor vehicle emissions of GHGs even if they meet the CAA definition of "air pollutant." Commenters supportive of the petition noted the broad authority conferred by section 202(a)(1) to regulate motor vehicle emissions that cause or contribute to air pollution that may reasonably be anticipated to endanger public health and welfare. These commenters also noted that CAA section 302(h) defines "welfare" to include effects on weather and climate, as well as other aspects of the environment that may be affected by global climate change (e.g., soils, water, crops, vegetation, animals, visibility).

Other commenters argued that the CAA does not authorize regulations to address global climate change, including motor vehicle GHG emission standards. They noted that no CAA provision specifically authorizes global climate change regulations, a Senate committee's proposal for mandatory CO_2 standards for motor vehicles did not survive Senate consideration, and other contemporaneous legislative proposals for mandatory GHG emission reductions failed to pass. They also pointed out that the only CAA provision that specifically mentions CO_2 authorizes only "nonregulatory" measures and expressly precludes its use as authority for imposing mandatory controls. They cited another CAA provision that calls on EPA to determine the "global warming potential" of certain pollutants but expressly precludes regulation on that basis as further indication that Congress did not intend EPA to regulate GHGs under the CAA.

Looking at the CAA more broadly, several commenters argued that the key statutory mechanism for controlling pervasive "air pollutants" – establishing and implementing national ambient air quality standards under sections 108, 109 and 110 – is unworkable for addressing an issue whose causes and effects are global in nature. Several commenters also pointed out that Congress addressed another global atmospheric issue, depletion of stratospheric ozone by man-made substances, explicitly and in discrete portions of the Act, specifically part B of title I prior to the CAA Amendments of 1990 and title VI following the 1990 amendments. Moreover, both incarnations of CAA stratospheric

ozone authority included recognition of the international nature of the problem and provisions to facilitate and augment international cooperation in achieving a solution. These commenters argued that if Congress had intended EPA to address global climate change under the CAA, it would have made that clear by including analogous provisions.

Placing the CAA in a larger context, the commenters noted several other federal statutes that specifically address global climate change and authorize only research and policy development, not regulation. Commenters also pointed out that Congress has expressed dissatisfaction with the Kyoto Protocol, negotiated under the auspices of the United Nations Framework Convention on Climate Change and requiring parties to the Protocol to reduce their GHG emissions by a specific amount. They further cited congressional actions taken since the 1990 CAA amendments to prevent EPA from implementing the Kyoto Protocol (the so-called Knollenberg amendments to the FY 1999 and 2000 VA-HUD and Independent Agency Appropriations Acts). Finally, they noted that Congress had rejected numerous legislative proposals mandating GHG reductions (see, e.g., S. 1224, 101st Cong. (1989); H.R. 5966, 101st Cong. (1990)). According to the commenters, these actions clearly signal that Congress awaits further scientific information and other technological and international developments before authorizing any regulation to address global climate change.

Finally, several commenters pointed to the Supreme Court's decision in *Food and Drug Administration v. Brown & Williamson Tobacco Corp.*, 120 S.Ct. 1291 (2000), finding that the FDA lacks authority to regulate tobacco products despite a facially broad grant of authority. These commenters warned that a reviewing court would closely scrutinize and likely strike down an EPA assertion of CAA authority to regulate for global climate change purposes when Congress specifically addressed the issue of global climate change, not in the CAA, but in other federal statutes that do not authorize regulation.

On the other hand, several commenters pointed to, and agreed with, a letter from then EPA General Counsel Guzy to a congressional committee explaining that explicit mention of a pollutant is not a necessary prerequisite to regulation under a statutory provision granting broad authority to regulate

pollutants, provided that the statutory criteria for regulation are met. These commenters also echoed Mr. Guzy's view that a congressional decision not to require standards does not affect pre-existing discretionary authority to set standards where the applicable criteria are met.

Many commenters considered the issue of whether anthropogenic GHG emissions contribute to air pollution that may reasonably be anticipated to endanger public health or welfare. Several commenters pointed out, as petitioners did, that EPA's climate website and other national and international reports describe hazards to human health and welfare that may result from global climate change. Other commenters claimed that there is no basis at this time for EPA to conclude that GHG emissions from U.S. motor vehicles endanger public health or welfare. Some commenters questioned whether global warming was occurring or whether humans' impact on any global warming was significant. These commenters also suggested that global warming, if real, would have beneficial impacts (e.g., helping prevent another ice age, increasing agricultural production) that could outweigh any adverse effects. Several commenters argued that since the causes and effects of global climate change occur on a worldwide basis, regulation of only U.S. motor vehicles would be neither effective nor fair.

Commenters also addressed whether it is technologically feasible to reduce GHG emissions from new motor vehicles. Some commenters described categories of technologies that can substantially reduce CO_2 emissions from gasoline-powered passenger cars and light trucks, including vehicle load reduction, engine improvements, improved transmissions, integrated starter generators, and hybrid-electric drivetrains. Vehicle load reduction strategies include reduced vehicle mass, reduced aerodynamic drag, reduced tire rolling resistance, and reduced accessory loads. Engine improvement strategies include improved specific power and gasoline direct injection. Improved transmission strategies include 5- and 6-speed automatic transmissions, 5speed motorized manual gearshifts, and continuously variable transmissions. Other commenters asserted that EPA may not regulate motor vehicle GHG emissions by setting fuel economy standards inasmuch as Congress entrusted fuel economy standard-setting to the Department of Transportation (DOT) under the Energy Policy

and Conservation Act (EPCA).

Finally, commenters considered whether EPA has a mandatory duty to regulate motor vehicle GHG emissions. Some commenters agreed with petitioners that the Cannon Memorandum and EPA's website statements triggered an obligation under CAA section 202(a)(1) to set CO_2 standards. Other commenters countered that the Cannon Memorandum and EPA website statements are not formal EPA findings for the purposes of exercising statutory authority. They asserted that for findings to provide a sufficient legal basis for regulating under section 202(a)(1), they must be established through a public notice-and-comment process.

V. EPA Response

After careful consideration of petitioners' arguments and the public comments, EPA concludes that it cannot and should not regulate GHG emissions from U.S. motor vehicles under the CAA. Based on a thorough review of the CAA, its legislative history, other congressional action and Supreme Court precedent, EPA believes that the CAA does not authorize regulation[2] to address global climate change. Moreover, even if CO_2 were an air pollutant generally subject to regulation under the CAA, Congress has not authorized the Agency to regulate CO_2 emissions from motor vehicles to the extent such standards would effectively regulate car and light truck fuel economy, which is governed by a comprehensive statute administered by DOT.

In any event, EPA believes that setting GHG emission standards for motor vehicles is not appropriate at this time. President Bush has established a comprehensive global climate change policy designed to (1) answer questions about the causes, extent, timing and effects of global climate change that are critical to the formulation of an effective, efficient long-term policy, (2) encourage the development of advanced technologies that will enable dramatic reductions in GHG emissions, if needed, in the future, and (3) take sensible steps in the interim to reduce the risk

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[2] "Regulation" as used in this section of the notice refers to legally binding requirements promulgated by an agency under statutory authority. It does not include voluntary measures that emission sources may or may not undertake at their discretion.

of global climate change. The international nature of global climate change also has implications for foreign policy, which the President directs. In view of EPA's lack of CAA regulatory authority to address global climate change, DOT's authority to regulate fuel economy, the President's policy, and the potential foreign policy implications, EPA declines the petitioners' request to regulate GHG emissions from motor vehicles.

A. EPA's Legal Authority under the CAA

As summarized above, many commenters on the petition raised important legal issues regarding EPA's authority to issue global climate change regulations under the CAA. Two EPA General Counsels previously addressed the issue of EPA's authority to impose CO_2 emission control requirements. Both found that CO_2 meets the CAA definition of "air pollutant" and could therefore be subject to regulation under one or more of the CAA's regulatory provisions if the applicable statutory criteria for regulation were met. Both also noted, however, that the Agency had not made the requisite findings under any CAA provision for regulation of CO_2 emissions. Significantly, the past general counsels reached their conclusions prior to the Supreme Court's decision in *Brown & Williamson,* which cautions agencies against using broadly worded statutory authority to regulate in areas raising unusually significant economic and political issues when Congress has specifically addressed those areas in other statutes.

Because the petition seeks CAA regulation of GHG emissions from motor vehicles to reduce the risk of global climate change, EPA has examined the fundamental issue of whether the CAA authorizes the imposition of control requirements for that purpose. As part of that examination, EPA's General Counsel, Robert E. Fabricant, reviewed his predecessors' memorandum and statements, as well as the public comments raising legal authority issues. The General Counsel considered the text and history of the CAA in the context of other congressional actions specifically addressing global climate change and in light of the Supreme Court's admonition in *Brown & Williamson* to "be guided to a degree by common sense as to the manner in which Congress is likely to delegate a policy decision of such * * * magnitude to an administrative agency." In a memorandum to the Acting Administrator dated August 29, 2003, the General Counsel

concluded that the CAA does not authorize EPA to regulate for global climate change purposes, and accordingly that CO_2 and other GHGs cannot be considered "air pollutants" subject to the CAA's regulatory provisions for any contribution they may make to global climate change. Accordingly, he withdrew the Cannon memorandum and statements by Mr. Guzy as no longer expressing the views of EPA's General Counsel. The General Counsel's opinion is adopted as the position of the Agency for purposes of deciding this petition and for all other relevant purposes under the CAA.

As summarized above, commenters supporting the petition claim that section 202 of the CAA provides EPA with broad authority to set standards for motor vehicle emissions of CO_2 and other GHGs to the extent those emissions cause or contribute to global climate change. At the same time, other commenters correctly note that (1) no CAA provision specifically authorizes global climate change regulation, (2) the only CAA provision specifically mentioning CO_2 authorizes only "nonregulatory" measures, (3) the codified CAA provisions related to global climate change expressly preclude the use of those provisions to authorize regulation, (4) a Senate committee proposal to include motor vehicle CO_2 standards in the 1990 CAA amendments failed, (5) federal statutes expressly addressing global climate change do not authorize regulation, and (6) numerous congressional actions suggest that Congress has yet to decide that such regulation is warranted. These indicia of congressional intent raise the issue of whether the CAA is properly interpreted to authorize regulation to address global climate change.

Congress was well aware of the global climate change issue when it last comprehensively amended the CAA in 1990. During the 1980s, scientific discussions about the possibility of global climate change led to public concern both in the U.S. and abroad. In response, the U.S. and other nations developed the United Nations Framework Convention on Climate Change (UNFCCC). President George H. W. Bush signed, and the U.S. Senate approved, the UNFCCC in 1992, and the UNFCCC took effect in 1994.

The UNFCCC established the "ultimate objective" of "stabiliz[ing] greenhouse gas concentrations in the atmosphere at

a level that would prevent dangerous anthropogenic interference with the climate system" (Article 2 of the UNFCCC). All parties to the UNFCCC agreed on the need for further research to determine the level at which GHG concentrations should be stabilized, acknowledging that "there are many uncertainties in predictions of climate change, particularly with regard to the timing, magnitude and regional patterns thereof" (findings section of UNFCCC).

Shortly before the UNFCCC was adopted in May 1992, Congress developed the 1990 CAA amendments. A central issue for the UNFCCC – whether binding emission limitations should be set – was also considered in the context of the CAA amendments. As several commenters noted, a Senate committee included in its bill to amend the CAA a provision requiring EPA to set CO_2 emission standards for motor vehicles. However, that provision was removed from the bill on which the full Senate voted, and the bill eventually enacted was silent with regard to motor vehicle CO_2 emission standards. During this same time period, other legislative proposals were made to control GHG emissions, some in the context of national energy policy, but none were passed (see, e.g., S. 324, 101st Cong. (1989); S. 1224, 101st Cong. (1989); H.R. 5966, 101st Cong. (1990)).

In the CAA Amendments of 1990 as enacted, Congress called on EPA to develop information concerning global climate change and "nonregulatory" strategies for reducing CO_2 emissions. Specifically, uncodified section 821 of the CAA Amendments requires measurement of CO_2 emissions from utilities subject to permitting under title V of the CAA. New section 602 of the CAA directs EPA to determine the "global warming potential" of substances that deplete stratospheric ozone. And new section 103(g) calls on EPA to develop "nonregulatory" measures for the prevention of multiple air pollutants and lists several air pollutants and CO_2 for that purpose.

Notably, none of these provisions authorizes the imposition of mandatory requirements, and two of them expressly preclude their use for regulatory purposes (sections 103(g) and 602). Only the research and development provision of the CAA – section 103 – specifically mentions CO_2, and the legislative history of that section indicates that Congress was focused on seeking a sound scientific basis on which to make

future decisions on global climate change, not regulation under the CAA as it was being amended. Representatives Roe and Smith, two of the principal authors of section 103 as amended, explained that EPA's "science mandate" needed updating to deal with new, more complex issues, including "global warming" (A Legislative History of the Clean Air Act Amendments of 1990, 103 Cong., 1st Sess., S. Prt. 103-38, Vol. 2, pp. 2776 and 2778). They expressed concern that EPA's research budget had been too heavily focused on supporting existing regulatory actions when the Agency also needed to conduct long-term research to "enhance EPA's ability to predict the need for future action" (*id.* at 2777).

In providing EPA with expanded research and development authority, however, Congress did not provide commensurate regulatory authority. In section 103(g), Congress directed EPA to establish a "basic engineering research and technology program to develop, evaluate and demonstrate" strategies and technologies for air pollution prevention and specifically called for improvements in such measures for preventing CO_2 as well as several specified air pollutants. But it expressly provided that nothing in the subsection "shall be construed to authorize the imposition on any person of air pollution control requirements." As if to drive home the point, section 103(g) was revised in conference to include the term "nonregulatory" to describe the "strategies and technologies" the subsection was intended to promote. In its treatment of the global climate change issue in the CAA amendments, Congress made clear that it awaited further information before making decisions on the need for regulation.

Beyond Congress' specific CAA references to CO_2 and global warming, another aspect of the Act cautions against construing its provisions to authorize regulation of emissions that may contribute to global climate change. The CAA provisions addressing stratospheric ozone depletion demonstrate that Congress has understood the need for specially tailored solutions to global atmospheric issues, and has expressly granted regulatory authority when it has concluded that controls may be needed as part of those solutions. Like global climate change, the causes and effects of stratospheric ozone depletion are global in nature. Anthropogenic substances that deplete stratospheric ozone are emitted around the world and are very long-lived; their depleting

effects and the consequences of those effects occur on a global scale. In the CAA prior to its amendment in 1990, Congress specifically addressed the problem in a separate portion of the statute (part B of title I) that recognized the global nature of the problem and called for negotiation of international agreements to ensure world-wide participation in research and any control of stratospheric ozone-depleting substances. In the 1990 CAA amendments, Congress again addressed the issue in a discrete portion of the statute (title VI) that similarly provides for coordination with the international community. Moreover, both incarnations of the CAA's stratospheric ozone provisions contain express authorization for EPA to regulate as scientific information warrants. In light of this CAA treatment of stratospheric ozone depletion, it would be anomalous to conclude that Congress intended EPA to address global climate change under the CAA's general regulatory provisions, with no provision recognizing the international dimension of the issue and any solution, and no express authorization to regulate.

EPA's prior use of the CAA's general regulatory provisions provides an important context. Since the inception of the Act, EPA has used these provisions to address air pollution problems that occur primarily at ground level or near the surface of the earth. For example, national ambient air quality standards (NAAQS) established under CAA section 109 address concentrations of substances in the ambient air and the related public health and welfare problems. This has meant setting NAAQS for concentrations of ozone, carbon monoxide, particulate matter and other substances in the air near the surface of the earth, not higher in the atmosphere. Concentrations of these substances generally vary from place to place as a result of differences in local or regional emissions and other factors (e.g., topography), although long range transport may also contribute to local concentrations in some cases. CO_2, by contrast, is fairly consistent in concentration throughout the *world's* atmosphere up to approximately the lower stratosphere. Problems associated with atmospheric concentrations of CO_2 are much more like the kind of global problem Congress addressed through adoption of the specific provisions of Title VI.

In assessing the availability of CAA authority to address global climate change, it is also useful to consider whether the

NAAQS system – a key CAA regulatory mechanism – could be used to effectively address the issue. Unique and basic aspects of the presence of key GHGs in the atmosphere make the NAAQS system fundamentally ill-suited to addressing these gases in relation to global climate change. Many GHGs reside in the earth's atmosphere for very long periods of time. CO_2, by far the most pervasive of anthropogenic GHGs, has a residence time of roughly 50-200 years. This long lifetime along with atmospheric dynamics means that CO_2 is well mixed throughout the atmosphere, up to approximately the lower stratosphere. The result is a vast global atmospheric pool of CO_2 that is fairly consistent in concentration, everywhere along the surface of the earth and vertically throughout this area of mixing.

While atmospheric concentrations of CO_2 are fairly consistent globally, the potential for either adverse or beneficial effects in the U.S. from these concentrations depends on complicated interactions of many variables on the land, in the oceans, and in the atmosphere, occurring around the world and over long periods of time. Characterization and assessment of such effects and the relation of such effects to atmospheric concentration of CO_2 in the U.S. would present scientific issues of unprecedented complexity in the NAAQS context. The long-lived nature of the CO_2 global pool would also make it extremely difficult to evaluate the extent over time to which effects in the U.S. would be related to anthropogenic emissions in the U.S. Finally, the nature of the global pool would mean that any CO_2 standard that might be established would in effect be a worldwide ambient air quality standard, not a national standard – the entire world would be either in compliance or out of compliance.

Such a situation would be inconsistent with a basic underlying premise of the CAA regime for implementation of a NAAQS – that actions taken by individual states and by EPA can generally bring all areas of the U.S. into attainment of a NAAQS. The statutory NAAQS implementation regime is fundamentally inadequate when it comes to a substance like CO_2, which is emitted globally and has relatively homogenous concentrations around the world. A NAAQS for CO_2, unlike any pollutant for which a NAAQS has been established, could not be attained by any area of the U.S. until such a standard were attained by the entire world as a result of emission controls implemented in

countries around the world. The limited flexibility provided in the Act to address the impacts of foreign pollution transported to the U.S. was not designed to address the challenges presented by long-lived global atmospheric pools such as exists for CO_2. The globally-pervasive nature of CO_2 emissions and atmospheric concentrations presents a unique problem that fundamentally differs from the kind of environmental problem that the NAAQS system was intended to address and is capable of solving.

Other congressional actions confirm that Congress did not authorize regulation under the CAA to address global climate change. Starting in 1978, Congress passed several pieces of legislation specifically addressing global climate change. With the National Climate Program Act of 1978, 15 U.S.C. 2901 et seq., Congress established a "national climate program" to improve understanding of "climate processes, natural and man induced, and the social, economic, and political implications of global climate change" through research, data collection, assessments, information dissemination, and international cooperation. In the Global Climate Protection Act of 1987, 22 U.S.C. 2651 note, Congress directed the Secretary of State to coordinate U.S. negotiations concerning global climate change, and EPA to develop and propose to Congress a coordinated national policy on the issue. Three years later, Congress passed the Global Change Research Act of 1990, 15 U.S.C. 2931 et seq., establishing a Committee on Earth and Environmental Sciences to coordinate a 10-year research program. That statute was enacted one day after the CAA Amendments of 1990 was signed into law. Also in 1990, Congress passed Title XXIV of the Food and Agriculture Act, creating a Global Climate Change Program to research global climate agricultural issues (section 2401 of Pub.L. No.101-624).

With these statutes, Congress sought to develop a foundation for considering whether future legislative action on global climate change was warranted and, if so, what that action should be. From federal agencies, it sought recommendations for national policy and further advances in scientific understanding and possible technological responses. It did not authorize any federal agency to take any regulatory action in response to those recommendations and advances. In fact, Congress declined to adopt other legislative proposals, contemporaneous with the bills to amend the CAA in 1989 and 1990, to require GHG emissions

reductions from stationary and mobile sources (see, e.g., S. 1224, 101st Cong. (1989); H.R. 5966, 101st Cong. (1990)). While Congress did not expressly preclude agencies from taking regulatory action under other statutes, its actions strongly indicate that when Congress was amending the CAA in 1990, it was awaiting further information before deciding *itself* whether regulation to address global climate change is warranted and, if so, what form it should take.

Since 1990, Congress has taken other actions consistent with the view that Congress did not authorize CAA regulation for global climate change purposes. In the 1992 Energy Policy Act, Congress called on the Secretary of Energy to assess various GHG control options and report back to Congress, and to establish a registry for reporting *voluntary* GHG emissions. Following ratification of the UNFCCC, nations party to the Convention negotiated the Kyoto Protocol calling for mandatory reductions in developed nations' GHG emissions. While the Kyoto Protocol was being negotiated, the Senate in 1997 adopted by a 95-0 vote the Byrd-Hagel Resolution, which stated that the U.S. should not be a signatory to any protocol that would result in serious harm to the economy of the U.S. or that would mandate new commitments to limit or reduce U.S. GHG emissions unless the Protocol also mandated new, specific, scheduled commitments to limit or reduce GHG emissions for developing countries within the same compliance period. Although the Clinton Administration signed the Kyoto Protocol, it did not submit it to the Senate for ratification out of concern that the Senate would reject the treaty. Congress also attached language to appropriations bills that barred EPA from implementing the Kyoto Protocol without Senate ratification (see, e.g., Knollenberg amendments to the FY 1999 and 2000 VA-HUD and Independent Agencies Appropriations Acts). Since enactment of the 1990 CAA amendments, numerous bills to control GHG emissions from mobile and stationary sources have failed to win passage (see, e.g., H.R. 2993, 102d Cong., 1st Sess. 137 Cong. *Rec.* H4611 (daily ed. 1991)).

Against this backdrop of consistent congressional action to learn more about the global climate change issue before specifically authorizing regulation to address it, the CAA cannot be interpreted to authorize such regulation in the absence of any direct or even indirect indication of congressional intent to provide

such authority. EPA is urged on in this view by the Supreme Court's decision in *Brown & Williamson*, which struck down FDA's assertion of authority to regulate tobacco products under the Food, Drug and Cosmetic Act (FDCA). That statute contains a broadly worded grant of authority for FDA to regulate "drugs" and "devices," terms which the statute also broadly defines. However, the FDCA does not specifically address tobacco products while other federal laws expressly govern the marketing of those products.

Notwithstanding the FDCA's facially broad grant of authority, the Supreme Court explained that "[i]n extraordinary cases, * * * there may be reason to hesitate before concluding that Congress has intended such an implicit delegation." The Court noted that FDA was "assert[ing] jurisdiction to regulate an industry constituting a significant portion of the American economy," despite the fact that "tobacco has its own unique political history" that had led Congress to create a distinct regulatory scheme for tobacco products. The Court concluded that FDA's assertion of authority to regulate tobacco was "hardly an ordinary case." The Court analyzed FDA's authority in light of the language, structure and history of the FDCA and other federal legislation and congressional action specifically addressing tobacco regulation, including failed legislative attempts to confer authority of the type FDA was asserting. Based on that analysis, it determined that Congress did not "intend[] to delegate a decision of such economic and political significance * * * in so cryptic a fashion."

It is hard to imagine any issue in the environmental area having greater "economic and political significance" than regulation of activities that might lead to global climate change. Virtually every sector of the U.S. economy is either directly or indirectly a source of GHG emissions, and the countries of the world are involved in scientific, technical, and political-level discussions about climate change. We believe, in fact, that an effort to impose controls on U.S. GHG emissions would have far greater economic and political implications than FDA's attempt to regulate tobacco.

The most abundant anthropogenic GHG, CO_2, is emitted whenever fossil fuels such as coal, oil, and natural gas are used to produce energy. The production and use of fossil fuel-based

energy undergirds almost every aspect of the U.S. economy. For example, approximately 70 percent of the electric energy used in this country is generated from fossil fuel, and the U.S. transportation sector is almost entirely dependent on oil.

Proposals to reduce CO_2 emissions from these sectors have focused on four major approaches: (1) improve fuel efficiency; (2) capture and sequester CO_2; (3) switch to alternative non-fossil fuel sources; and (4) reduce vehicle usage by switching to alternative forms of transportation. Congress has already addressed the first approach in other statutes – not the CAA – by giving other Departments and agencies – not EPA – regulatory authority to deal with fuel and energy efficiency. For example, Congress has authorized DOT to set fuel economy standards for motor vehicles and the Department of Energy to set efficiency standards for products such as air conditioners and appliances that consume electricity.

The other approaches for reducing CO_2 emissions all have substantial economic implications. While it may eventually be possible to achieve widespread capture and sequester CO_2 emissions from power plants, such an approach would require a new generation of power plants and would be very costly, even if implemented over many years. As for the use of alternative fuels, governments and private companies around the world are investing billions of dollars to explore the possibility of using non-fossil fuels for power generation and transportation. Any widespread effort to switch away from fossil fuels in either sector would likewise require a wholesale transformation of our methods for producing power and transporting goods and people. As for alternative modes of transportation, Congress and many states have already adopted measures to encourage public transportation, car pooling, bike usage, and land-use planning designed to minimize commuting distances. EPA supports these measures and believes that they provide many environmental benefits. However, widespread substitution of alternative forms of transportation for transportation based on fossil fuel energy would also require a wholesale remaking of this sector. It is hard to overstate the economic significance of making these kinds of fundamental and widespread changes in basic methods of producing and using energy.

The issue of global climate change also has enormous

political significance. It has been discussed extensively during the last three Presidential campaigns; it is the subject of debate and negotiation in several international bodies; and numerous bills have been introduced in Congress over the last 15 years to address the issue.

In light of Congress' attention to the issue of global climate change, and the absence of any direct or even indirect indication that Congress intended to authorize regulation under the CAA to address global climate change, it is unreasonable to conclude that the CAA provides the Agency with such authority. An administrative agency properly awaits congressional direction before addressing a fundamental policy issue such as global climate change, instead of searching for authority in an existing statute that was not designed or enacted to deal with the issue. We thus conclude that the CAA does not authorize regulation to address concerns about global climate change.

It follows from this conclusion, that GHGs, as such, are not air pollutants under the CAA's regulatory provisions, including sections 108, 109, 111, 112 and 202. CAA authorization to regulate is generally based on a finding that an air pollutant causes or contributes to air pollution that may reasonably be anticipated to endanger public health or welfare. CAA section 302(g) defines "air pollutant" as "any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive * * * substance or matter which is emitted into or otherwise enters the ambient air. Such term includes any precursors to the formation of any air pollutant[.]" The root of the definition indicates that for a substance to be an "air pollutant," it must be an "agent" of "air pollution." Because EPA lacks CAA regulatory authority to address global climate change, the term "air pollution" as used in the regulatory provisions cannot be interpreted to encompass global climate change. Thus, CO_2 and other GHGs are not "agents" of air pollution and do not satisfy the CAA section 302(g) definition of "air pollutant" for purposes of those provisions. We reserve judgment on whether GHGs would meet the CAA definition of "air pollutant" for regulatory purposes were they subject to regulation under the

CAA for global climate change purposes.[3]

B. Interference with Fuel Economy Standards

Even if GHGs were air pollutants generally subject to regulation under the CAA, Congress has not authorized the Agency to regulate CO_2 emissions from motor vehicles to the extent such standards would effectively regulate the fuel economy of passenger cars and light duty trucks. No technology currently exists or is under development that can capture and destroy or reduce emissions of CO_2, unlike other emissions from motor vehicle tailpipes. At present, the only practical way to reduce tailpipe emissions of CO_2 is to improve fuel economy. Congress has already created a detailed set of mandatory standards governing the fuel economy of cars and light duty trucks, and has authorized DOT – not EPA – to implement those standards. The only way for EPA to proceed with CO_2 emissions standards without upsetting this statutory scheme would be to set a standard less stringent than CAFE for cars and light duty trucks. But such an approach would be meaningless in terms of reducing GHG emissions from the U.S. motor vehicle fleet.[4] Congress' care in designing the CAFE program makes clear that EPCA is the only statutory vehicle for regulating the fuel economy of cars and light duty trucks. Under EPCA, DOT may set only "corporate average" standards that automakers meet on a fleetwide basis. Automakers thus have flexibility to design different vehicle models having different fuel economy so long as the average of the

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[3] As General Counsel Fabricant notes in his memorandum, a substance does not meet the CAA definition of "air pollutant" simply because it is a "physical, chemical, biological, radioactive * * * substance or matter which is emitted into or otherwise enters the ambient air." It must also be an "air pollution agent."

[4] Although the ICTA petition focuses on passenger cars and light duty trucks, it seeks regulation of GHG emissions generally from motor vehicles and engines, which include heavy duty engines and trucks. Passenger cars and light duty trucks are subject to CAFE standards; heavy duty trucks are not. The contribution of heavy duty trucks to the U.S. motor vehicle GHG inventory is relatively small, about 16 percent. EPA believes it would be ineffective, inefficient and unreasonable to set CO_2 emission standards for these vehicles in the absence of a more comprehensive program for seeking CO_2 and other GHG reductions from the many types of sources of these emissions.

vehicles sold by the automaker in a given model year and class meets the CAFE standard for that year. In fact, EPCA offers automakers additional flexibility by allowing them to meet the CAFE standard for a given model year by "carrying back" or "carrying forward" the excess fuel economy performance of their fleets for the three years before or after the applicable model year.

EPCA also builds in an opportunity for congressional oversight of CAFE standard-setting that reinforces the notion that Congress intended fuel economy to be governed by EPCA alone. The statute specifies a CAFE standard of 27.5 miles per gallon for passenger cars in model years 1984 and beyond (49 U.S.C. section 32902(b)), but authorizes DOT to amend the standard to the "maximum feasible average fuel economy level" for the relevant model year. However, to the extent DOT raises or lowers the standards beyond specified levels, EPCA provides an automatic opportunity for Congress to disapprove and effectively void the amended standard (49 U.S.C. section 32902(c)). Given that the only practical way of reducing tailpipe CO_2 emissions is by improving fuel economy, any EPA effort to set CO_2 tailpipe standards under the CAA would either abrogate EPCA's regime (if the standards were effectively more stringent than the applicable CAFE standard) or be meaningless (if they were effectively less stringent).

C. No Mandatory Duty

As explained above, in light of the language, history, structure and context of the CAA and Congress' decision to give DOT authority to regulate fuel economy under EPCA, it is clear that EPA does not have authority to regulate motor vehicle emissions of CO_2 and other GHGs under the CAA. In any event, the CAA provision authorizing regulation of motor vehicle emissions does not impose a mandatory duty on the Administrator to exercise her judgment. Instead, section 202(a)(1) provides the Administrator with discretionary authority to address emissions in addition to those addressed by other section 202 provisions (see, e.g., sections 202(a)(3) and (b)). While section 202(a)(1) uses the word "shall," it does not require the Administrator to act by a specified deadline and it conditions authority to act on a discretionary exercise of the Administrator's judgment regarding whether motor vehicle emissions cause or contribute to air pollution that may reasonably be anticipated to

endanger public health or welfare.

The Web site statements, legal memorandum and other documents cited by petitioners and commenters in support of the petition are not sufficient to satisfy the criteria for setting standards under section 202(a)(1). Exercise of section 202(a)(1) authority turns on the judgment made by the *Administrator*, and CAA section 301 does not permit the Administrator to delegate her standard-setting authority under section 202(a)(1). None of the statements petitioners claim constitute the requisite endangerment finding for GHGs under section 202(a)(1) were made, or subsequently adopted, by the Administrator. As the Cannon memorandum stated in 1998, no Administrator had made a finding under any of the CAA's regulatory provisions that CO_2 meets the applicable statutory criteria for regulation. (Notably, the website statements on which the petitioners partly rely were in existence at the time Mr. Cannon issued his memorandum.) That statement remains true today–no Administrator has made any finding that satisfies the criteria for setting CO_2 standards for motor vehicles or any other emission source. In any event, for such findings to suffice for standard-setting purposes, they must be established through a notice-and-comment process.

EPA also disagrees with the premise of the petitioners' claim–that if the Administrator were to find that GHGs, in general, may reasonably be anticipated to endanger public health or welfare, she must necessarily regulate GHG emissions from motor vehicles. Depending on the particular problem, motor vehicles may contribute more or less or not at all. An important issue before the Administrator is whether, given motor vehicles' relative contribution to a problem, it makes sense to regulate them. In the case of some types of air pollution, motor vehicles may be one of many contributors, and it may make sense to control other contributors instead of, or in tandem with, motor vehicles. The discretionary nature of the Administrator's section 202(a)(1) authority allows her to consider these important policy issues and decide to regulate motor vehicle emissions as appropriate to the air pollution problem being addressed. Accordingly, even were the Administrator to make a formal finding regarding the potential health and welfare effects of GHGs in general, section 202(a)(1) would not require her to regulate GHG emissions from motor vehicles.

D. Different Policy Approach

Beyond issues of authority and interference with fuel economy standards, EPA disagrees with the regulatory approach urged by petitioners. We agree with the President that "we must address the issue of global climate change" (Feb. 14, 2002). We do not believe, however, that it would be either effective or appropriate for EPA to establish GHG standards for motor vehicles at this time. As described in detail below, the President has laid out a comprehensive approach to climate change that calls for near-term voluntary actions and incentives along with programs aimed at reducing scientific uncertainties and encouraging technological development so that the government may effectively and efficiently address the climate change issue over the long term.

Petitioners cited numerous studies and other sources of information in contending that anthropogenic emissions of CO_2, CH_4, N_2O, and HFCs are accelerating global climate change and that emission of these compounds from motor vehicles contribute to the problem. Numerous commenters agreed with petitioners and a few cited additional information or studies as further support. See "Summary of Climate Petition Comments on Science" in the docket for this action. Other commenters disagreed with petitioners' contentions, citing different data and studies or in some cases interpreting the same data and studies differently or emphasizing different aspects of the information provided. *Id.* We reviewed the information submitted by petitioners and commenters and concluded that all of the information was widely available and in the public domain at the time we solicited comments on the petition. The information submitted does not add significantly to the body of information available to the National Research Council (NRC) when it prepared its 2001 report, *Climate Change Science: An Analysis of Some Key Questions*. We rely in this decision on NRC's objective and independent assessment of the relevant science. The comments submitted to the record do not include information that causes us to question the validity of the NRC's conclusions.

As the NRC noted in its report, concentrations of GHGs are increasing in the atmosphere as a result of human activities (pp. 9-12). It also noted that "[a] diverse array of evidence points to a warming of global surface air temperatures" (p. 16). The

report goes on to state, however, that "[b]ecause of the large and still uncertain level of natural variability inherent in the climate record and the uncertainties in the time histories of the various forcing agents (and particularly aerosols), a casual linkage between the buildup of greenhouse gases in the atmosphere and the observed climate changes during the 20th century cannot be unequivocally established. The fact that the magnitude of the observed warming is large in comparison to natural variability as simulated in climate models is suggestive of such a linkage, but it does not constitute proof of one because the model simulations could be deficient in natural variability on the decadal to century time scale" (p. 17).

The NRC also observed that "there is considerable uncertainty in current understanding of how the climate system varies naturally and reacts to emissions of [GHGs] and aerosols" (p.1). As a result of that uncertainty, the NRC cautioned that "current estimate of the magnitude of future warming should be regarded as tentative and subject to future adjustments (either upward or downward)." *Id.* It further advised that "[r]educing the wide range of uncertainty inherent in current model predictions of global climate change will require major advances in understanding and modeling of both 1) the factors that determine atmospheric concentrations of [GHGs] and aerosols and 2) the so-called 'feedbacks' that determine the sensitivity of the climate system to a prescribed increase in [GHGs]." *Id.*

The science of climate change is extraordinarily complex and still evolving. Although there have been substantial advances in climate change science, there continue to be important uncertainties in our understanding of the factors that may affect future climate change and how it should be addressed. As the NRC explained, predicting future climate change necessarily involves a complex web of economic and physical factors including: our ability to predict future global anthropogenic emissions of GHGs and aerosols; the fate of these emissions once they enter the atmosphere (e.g., what percentage are absorbed by vegetation or are taken up by the oceans); the impact of those emissions that remain in the atmosphere on the radiative properties of the atmosphere; changes in critically important climate feedbacks (e.g., changes in cloud cover and ocean circulation); changes in temperature characteristics (e.g., average

temperatures, shifts in daytime and evening temperatures); changes in other climatic parameters (e.g., shifts in precipitation, storms); and ultimately the impact of such changes on human health and welfare (e.g., increases or decreases in agricultural productivity, human health impacts). The NRC noted, in particular, that "[t]he understanding of the relationships between weather/climate and human health is in its infancy and therefore the health consequences of climate change are poorly understood" (p. 20). Substantial scientific uncertainties limit our ability to assess each of these factors and to separate out those changes resulting from natural variability from those that are directly the result of increases in anthropogenic GHGs.

Reducing the wide range of uncertainty inherent in current model predictions will require major advances in understanding and modeling of the factors that determine atmospheric concentrations of greenhouse gases and aerosols, and the processes that determine the sensitivity of the climate system. Specifically, this will involve reducing uncertainty regarding:

- The future global use of fossil fuels and future global emissions of methane,
- The fraction of fossil fuel carbon that will remain in the atmosphere and contribute to radiative forcing versus exchange with the oceans or with the land biosphere,
- The impacts (either positive or negative) of climate change on regional and local systems,
- The nature and causes of the natural variability of climate and its interactions with human-induced changes, and
- The direct and indirect effects of the changing distribution of aerosols.

Knowledge of the climate system and of projections about the future climate is derived from fundamental physics, chemistry and observations. Data are then incorporated in global circulation models. However, model projections are limited by the paucity of data available to evaluate the ability of coupled models to simulate important aspects of climate. The U.S. and other countries are attempting to overcome these limitations by developing a more

comprehensive long-term observation system, by making more extensive regional measurements of greenhouse gases, and by increasing the computing power required to handle these expanded data sets.

A central component of the President's policy is to reduce key uncertainties that exist in our understanding of global climate change. Important efforts are underway to address these uncertainties. In particular, the federal government has expanded scientific research efforts through its Climate Change Research Initiative (CCRI). President Bush announced this new initiative in June 2001 and called for it "to study areas of uncertainty and identify priority areas where investments can make a difference." The CCRI recently issued its final "Strategic Plan for the Climate Change Research Program" to ensure that scientific efforts are focused where they are most critical and that the key scientific uncertainties identified are addressed in a timely and effective manner for decision makers.

The President has also stated, however, that "while scientific uncertainties remain, we can begin now to address the factors that contribute to climate change" (June 11, 2001). Thus, along with stepped-up efforts to reduce scientific uncertainties, the President's policy calls for public-private partnerships to develop break-through technologies that could dramatically reduce the economy's reliance on fossil fuels without slowing its growth. Large-scale shifts away from traditional energy sources, however, will require not only the development of abundant, cost-effective alternative fuels, but potentially wholesale changes in the way industrial processes and consumer products use fuel. Such momentous shifts do not take place quickly. As the President has explained, "[a]ddressing global climate change will require a sustained effort, over many generations" (*www.whitehouse.gov/news/releases/2002/02/climatechange.html*).

By contrast, establishing GHG emission standards for U.S. motor vehicles at this time would require EPA to make scientific and technical judgments without the benefit of the studies being developed to reduce uncertainties and advance technologies. It would also result in an inefficient, piecemeal approach to addressing the climate change issue. The U.S. motor vehicle fleet is one of many sources of GHG emissions both here and abroad, and different GHG emission sources face different

technological and financial challenges in reducing emissions. A sensible regulatory scheme would require that all significant sources and sinks of GHG emissions be considered in deciding how best to achieve any needed emission reductions.

Unilateral EPA regulation of motor vehicle GHG emissions could also weaken U.S. efforts to persuade key developing countries to reduce the GHG intensity of their economies. Considering the large populations and growing economies of some developing countries, increases in their GHG emissions could quickly overwhelm the effects of GHG reduction measures in developed countries. Any potential benefit of EPA regulation could be lost to the extent other nations decided to let their emissions significantly increase in view of U.S. emission reductions.[5] Unavoidably, climate change raises important foreign policy issues, and it is the President's prerogative to address them.

In light of the considerations discussed above, EPA would decline the petitioners' request to regulate motor vehicle GHG emissions even if it had authority to promulgate such regulations. Until more is understood about the causes, extent and significance of climate change and the potential options for addressing it, EPA believes it is inappropriate to regulate GHG emissions from motor vehicles.

In any event, the President's policy includes efforts to reduce motor vehicle petroleum consumption through increases in motor vehicle fuel economy. As noted previously, petitioners specifically suggested that EPA set a "corporate average fuel economy-based standard," but only DOT is authorized to set motor vehicle fuel economy standards. DOT considered increasing fuel economy standards and recently promulgated a final rule increasing the CAFE standards for light trucks, including sports

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[5] The U.S. faced a similar dilemma in its efforts to address stratospheric ozone depletion. Early U.S. controls on substances that deplete stratospheric ozone were not matched by many other countries. Over time, U.S. emission reductions were more than offset by emission increases in other countries. The U.S. did not impose additional domestic controls on stratospheric ozone-depleting substances until key developed and developing nations had committed to controlling their own emissions under the Montreal Protocol on Substances that Deplete Stratospheric Ozone.

utility vehicles, by 1.5 miles per gallon over a three-year period beginning with model year 2005. The new standards are projected to result in savings of approximately 3.6 billion gallons of gasoline over the lifetime of the affected vehicles, with the corresponding avoidance of 31 million metric tons of carbon dioxide emissions. For the longer term, the President has established a new public-private partnership with the nation's automobile manufacturers to promote the development of hydrogen as a primary fuel for cars and trucks, with the goal of building a commercially viable zero-emissions hydrogen-powered vehicle. In the near-term, the President has sought $3 billion in tax credits over 11 years for consumers to purchase fuel cell and hybrid vehicles.

Aside from fuel economy-based standards, petitioners only other suggestions for reducing CO_2 from motor vehicles are tire efficiency standards and a declining fleet-averaged NOx standard to force the introduction of zero-emitting vehicles. In the case of tire efficiency standards, it is questionable whether such standards would qualify as "standards applicable to the *emission*" of an air pollutant from a motor vehicle under section 202(a)(1), since such standards would presumably apply to the vehicle's tires, not its CO_2 emissions (emphasis added). As for zero emission vehicles, further technological developments are needed before they could be a practical choice for most consumers.

With respect to the other GHGs – CH_4, N20, and HFCs – petitioners make no suggestion as to how those emissions might be reduced from motor vehicles. GHG emissions from motor vehicles primarily consist of CO_2 from fuel combustion. In 1999, N20 represented 4 percent, HFCs 1 percent, and CH_4 less than 1 percent of transportation GHG emissions. As byproducts of combustion, there is a direct proportional relationship between CO_2 emissions and fuel economy levels. EPA believes parameters other than fuel economy are more relevant to N_2O and HFC formation. HFCs come from mobile air conditioners, while N_2O is influenced by catalytic converter design. CH_4 is a byproduct of combustion, like CO_2, but can also be affect by catalytic converter design. As noted above, N20, HFCs, and CH_4 represent a very small percentage of total U.S. transportation GHG emissions. As such, they would not be an effective or efficient target for regulation in the absence of regulation of CO_2 emissions.

VI. Administration Global Climate Change Policy

Lack of CAA authority to impose GHG control requirements does not leave the federal government powerless to take sensible measured steps to address the global climate change issue. As described in this notice, the President has laid out a comprehensive approach to global climate change that calls for near-term voluntary actions and incentives along with programs aimed at reducing scientific uncertainties and encouraging technological development so that the government may effectively and efficiently address the global climate change issue over the long term. The CAA and other federal statutes provide the federal government with ample authority to conduct the research necessary to better understand the nature, extent and effects of any human-induced global climate change and to develop technologies that will help achieve GHG emission reductions to the extent they prove necessary. The CAA and other statutes also authorize, and EPA and other agencies have established, nonregulatory programs that provide effective and appropriate means of addressing global climate change while scientific uncertainties are addressed.

As part of that effort, the President in February 2002 called for voluntary reductions in GHG intensity, including through fuel economy improvements. GHG intensity is the ratio of GHG emissions to economic output. The President's goal is to lower the U.S. rate of emissions from an estimated 183 metric tons per million dollars of gross domestic product (GDP) in 2002 to 151 metric tons per million dollars of GDP in 2012. Meeting this commitment will prevent GHG emissions of over 500 million metric tons of carbon equivalent (MMTCE) from entering the atmosphere cumulatively over the next ten years, and is equivalent to taking 70 million (or one out of three) cars off the road.

The "Climate VISION" (Voluntary Innovative Sector Initiatives: Opportunities Now) program, a Presidential initiative launched by the Department of Energy (DOE) in February 2003, is a voluntary public-private partnership designed to pursue cost-effective strategies to reduce the growth of GHG emissions, especially by energy-intensive industries. Working with trade associations and other groups, the program assists industry in its efforts to accelerate the transition to energy technologies and manufacturing processes that are cleaner, more efficient, and

capable of capturing or sequestering GHGs. Climate VISION links these objectives with technology development and deployment activities primarily at DOE, but also at other participating agencies. Since Climate VISION was launched, 14 industry groups have become program partners with DOE.

EPA is also pursuing a number of nonregulatory approaches to reducing GHG emissions. In February 2002, EPA launched EPA's Climate Leaders program, a new voluntary partnership program between government and industry. Through Climate Leaders, companies will work with EPA to evaluate their GHG emissions, set aggressive reduction goals, and report their progress toward meeting those goals. To date, more than 40 companies from almost all of the most energy-intensive industry sectors have joined Climate Leaders.

EPA's Energy Star program is another example of voluntary actions that have substantially reduced GHG emissions. Energy Star is a voluntary labeling program that provides critical information to businesses and consumers about the energy efficiency of the products they purchase. Over the past decade more than 750 million Energy Star products have been purchased across more than 30 product categories (e.g., computers, microwaves, washing machines). Reductions in GHG emissions from Energy Star purchases were equivalent to removing 10 million cars from the road last year. Businesses and consumers not only reduced their GHG emissions, but also saved $5 billion last year through their use of Energy Star products.

EPA is also working to encourage voluntary GHG emission reductions from the transportation sector. The key elements of this effort are the SmartWay Transport Partnership and the Best Workplaces for Commuters program. The SmartWay Transport Partnership works with the trucking and railroad industry to develop and deploy more fuel-efficient technologies and practices to achieve substantial fuel savings and emission reductions. The goal of Best Workplaces for Commuters is to offer innovative solutions to commuting challenges faced by U.S. employers and employees by promoting outstanding commuter benefits that reduce vehicle trips and miles traveled. EPA estimates that these voluntary programs have the potential to reduce GHG emissions by 9 MMTCE annually by 2010.

EPA has voluntary programs aimed specifically at reducing methane emissions from a variety of sources. For example, the Agency has partnerships with natural gas companies to reduce emissions from leaky pipelines and distribution equipment, solid waste landfill facilities to capture and reuse emissions from landfills, and coal mining companies to capture and reuse methane escaping from mines. Together, these programs are projected to reduce methane emissions to below 1990 levels through 2010.

In addition, EPA has extensive partnerships with industries responsible for emissions of the most potent industrial GHG (e.g., sulfur hexafluoride, per fluorocarbons and HFCs). Through partnerships with EPA, the aluminum sector has exceeded their goal of reducing PFC emissions by 45% from 1990 levels by 2000 and is now in discussions about a new, more aggressive goal. The semiconductor manufacturing sector has agreed to reduce their emissions by 10% below 1995 levels by 2010. This year, a new agreement was reached with the magnesium sector under which they have agreed to completely phase-out their SF6 emissions by 2010.

The federal government's voluntary climate programs are already achieving significant emission reductions. In 2000 alone, reductions in GHG emissions totaled 66 MMTCE when compared to emissions in the absence of these programs.

Importantly, the President's initiative will improve our ability to accurately measure and verify GHG emissions through an enhanced national GHG registry system. The U.S. will improve the voluntary registry's accuracy, reliability, and verifiability, taking into account emerging domestic and international approaches. Organizations participating in the new registry will be provided with transferable credits for achieving voluntary emissions reductions. These credits will be available for use under any future incentive-based or mandatory programs. We believe the enhanced standards for the new registry will strengthen the current voluntary trading systems.

The President's 2003 budget also seeks $4.5 billion for global climate change-related programs, a $700 million increase over 2002. This includes $1.7 billion for science research under the Climate Change Research Initiative, and $1.3 billion for

climate change technologies under the National Climate Change Technology initiative. This commitment is unmatched in the world. The 2003 budget seeks $555 million in clean energy incentives to spur investments in solar, wind, and biomass energy, co-generation, and landfill gas conversion.

New and expanded international policies will complement our domestic policies, including tripled funding for the "Debt-for-Nature" Tropical Forest Conservation Program, fully funding the Global Environment Facility for its third four-year replenishment, enhanced support for climate observation systems and climate technology assistance in developing countries, and sustained level funding for USAID climate programs, including technology transfer and capacity building in developing countries.

In the transportation sector, the Administration's global climate change plan includes promoting the development of fuel-efficient motor vehicles and trucks, researching options for producing cleaner fuels, and implementing programs to improve energy efficiency. The plan calls for expanding federal research partnerships with industry, providing market-based incentives, and updating current regulatory programs that advance our progress in this area. This commitment includes expanding fuel cell research, in particular through the "FreedomCAR" initiative.

FreedomCAR is a new public-private partnership with the nation's automobile manufacturers. It seeks to promote the development of hydrogen as a primary fuel for cars and trucks, with the goal of building a commercially viable zero-emissions hydrogen-powered vehicle. FreedomCAR focuses on technologies to enable mass production of affordable hydrogen-powered fuel cell vehicles and the hydrogen-supply infrastructure to support them. Developing new technologies to improve the energy efficiency of transportation in the U.S. will be a key element in achieving future reductions in GHG emissions. The President's 2003 budget seeks more than $3 billion in tax credits over 11 years for consumers to purchase fuel cell and hybrid vehicles. The Administration's global climate change plan supports increasing automobile fuel economy and encouraging new technologies that reduce our dependence on imported oil, while protecting passenger safety and jobs.

EPA will play an important role in efforts to develop

advanced motor vehicle technologies that improve fuel economy and reduce emissions. The Agency's Clean Automotive Technology (CAT) program is working to develop advanced clean and fuel-efficient automotive technology. Under the program, EPA's goal is to develop technology by the end of the decade that will satisfy stringent emissions requirements and achieve up to a doubling of fuel efficiency in personal vehicles such as SUVs, pickups, and urban delivery vehicles – while simultaneously meeting the more demanding size, performance, durability, and power requirements of these vehicles. EPA will also play a leadership role in advancing fuel cell vehicle and hydrogen fuel technologies and influencing the direction of technological and policy progress in support of U.S. environmental, energy, and national security goals.

To address GHG emissions from the electric utility sector, DOE in February of this year announced FutureGen, a $1 billion government/industry partnership to design, build and operate a nearly emission-free, coal-fired electric and hydrogen production plant. The 275-megawatt prototype plant will serve as a large scale engineering laboratory for testing new clean power, carbon capture, and coal-to-hydrogen technologies. It will be the cleanest fossil fuel-fired power plant in the world. The project is a direct response to the President's Climate Change and Hydrogen Fuels Initiatives.

In all, the President's global climate change policy sets the U.S. on a path to slow the growth of GHG emissions and, as the science justifies, to stop and then reverse that growth. This policy supports vital global climate change research and lays the groundwork for future action by investing in science, technology, and institutions. In addition, the President's policy emphasizes international cooperation and promotes working with other nations to develop an efficient and coordinated response to global climate change. In taking prudent environmental action at home and abroad, the U.S. is advancing a realistic and effective long-term approach to the global climate change issue.

VII. Conclusion

For the reasons discussed above, and after considering the ICTA petition, public comment, EPA's legal authority, and other relevant information, EPA hereby denies the ICTA petition

requesting that EPA regulate certain GHG emissions from new motor vehicles and engines under CAA section 202(a)(1).

Dated: August 28, 2003

/signed/ Jeffrey R. Holmstead

Assistant Administrator for Air and Radiation

United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

Filed December 2, 2005

No. 03-1361

COMMONWEALTH OF MASSACHUSETTS, ET AL.,
PETITIONERS

v.

ENVIRONMENTAL PROTECTION AGENCY,
RESPONDENT

ALLIANCE OF AUTOMOBILE MANUFACTURERS, ET AL.,
INTERVENORS

Consolidated with
03-1362, 03-1363, 03-1364, 03-1365, 03-1366, 03-1367,
03-1368,

On Petition for Rehearing En Banc

Before: GINSBURG, *Chief Judge*, AND SENTELLE, HENDERSON,* RANDOLPH, ROGERS,** TATEL,** GARLAND,* BROWN, AND GRIFFITH,** *Circuit Judges*.

ORDER

The petition of petitioners Commonwealth of Massachusetts, States of Maine, Oregon, Rhode Island, and Washington, and the District of Columbia for rehearing en banc and the opposition thereto were circulated to the full court, and a vote was requested. Thereafter a majority of the judges eligible to participate did not vote in favor of the petition. Upon consideration of the foregoing, it is

ORDERED that the petition be denied.

Per Curiam

FOR THE COURT:
Mark J. Langer, Clerk

BY:
Michael C. McGrail
Deputy Clerk

* Circuit Judges Henderson and Garland did not participate in this matter.

** Circuit Judges Rogers, Tatel, and Griffith would grant the petition for rehearing en banc.

** A separate statement by Circuit Judge Tatel, in which Circuit Judge Rogers joins, dissenting from the denial of rehearing en banc, is attached.

TATEL, *Circuit Judge*, with whom ROGERS, *Circuit Judge*, joins, dissenting from the denial of rehearing en banc:

In this case, several states and environmental groups petitioned for review of EPA's refusal to regulate greenhouse gases. The case presents two questions: 1) whether EPA has authority under the Clean Air Act (CAA) to regulate greenhouse gas emissions, and 2) whether, if it has such authority, its refusal to regulate greenhouse gases was arbitrary and capricious. Although the panel's decision denying the petitions has no precedential effect—the panel never considered the first question and Judge Randolph's views on the second are his alone—the case involves the threat of global warming and its attendant consequences for human health and the environment, and therefore presents an issue of "exceptional importance." Fed. R. App. P. 35; *see also* Douglas H. Ginsburg & Donald Falk, *The Court En Banc: 1981-1990*, 59 Geo. Wash. L. Rev. 1008, 1025 (1991) ("A case may be of exceptional importance to the public if it concerns . . . a unique issue of great moment to the community . . . ."). Indeed, if global warming is not a matter of exceptional importance, then those words have no meaning.

Contrary to *Ethyl Corp. v. EPA*, 541 F.2d 1 (D.C. Cir. 1976) (en banc), moreover, the panel's judgment permitted EPA to consider policy matters unconnected to the standard set by CAA section 202(a)(1). *See Ethyl*, 541 F.2d at 29 ("All of this is not to say that Congress left the Administrator free to set policy on his own terms. To the contrary, the policy guidelines are largely set, both in the statutory term 'will endanger' and in the relationship of that term to other sections of the Clean Air Act. These prescriptions direct the Administrator's actions."); *Mass. v. EPA*, 415 F.3d 50, 74-82 (Tatel, J., dissenting). Specifically, EPA offered several policy justifications to avoid making an endangerment finding for greenhouse gases, none of which has any bearing on the only question legitimately before it under CAA section 202(a)(1): whether greenhouse gases emitted from new cars "in [the Administrator's] judgment cause, or contribute

to, air pollution which may reasonably be anticipated to endanger public health or welfare." CAA § 202(a)(1), 42 U.S.C. § 7521(a)(1); *see also Mass. v. EPA*, 415 F.3d at 74-81 (Tatel, J., dissenting). As to that question, EPA acknowledges not only that automobile emissions produce greenhouse gases, *see* Control of Emissions from New Highway Vehicles and Engines, 68 Fed. Reg. 52,922, 52,931 (Sept. 8, 2003) ("[t]he U.S. motor vehicle fleet is one of many sources of [greenhouse gas] emissions both here and abroad"), but also that greenhouse gases in turn contribute to climate change, *see id.* (noting the President intends to "begin now to address the factors that contribute to climate change" in part through "voluntary reductions in [greenhouse gas] intensity"); *see also Mass. v. EPA*, 415 F.3d at 77-78 (Tatel, J., dissenting) (noting both that EPA never suggested that uncertainties surrounding the nature of global warming prevent an endangerment finding and that evidence before the Agency would not support that position). In short, EPA all but concedes that automobile greenhouse gas emissions "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." Although *Ethyl* recognizes EPA's discretion to interpret data from health risk assessments, nothing in *Ethyl* authorizes the Agency to do what it did here, i.e., to ignore record evidence of impending public harm and to refuse altogether to assess related risks.

For these reasons, I respectfully dissent from the denial of rehearing en banc.

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 03-1361 **September Term, 2005**

COMMONWEALTH OF MASSACHUSETTS, ET AL.,
Petitioners
v.
ENVIRONMENTAL PROTECTION AGENCY,
Respondent

UNITED STATES COURT OF APPEALS
FOR DISTRICT OF COLUMBIA CIRCUIT
FILED DEC 2 2005

ALLIANCE OF AUTOMOBILE MANUFACTURERS, ET AL.,
Intervenors

Consolidated with 03-1362, 03-1363, 03-1364, 03-1365, 03-1366, 03-1367, 03-1368,

BEFORE: Sentelle, Randolph and Tatel,* Circuit Judges

ORDER

Upon consideration of the petition of petitioners Commonwealth of Massachusetts, States of Maine, Oregon, Rhode Island, and Washington, and the District of Columbia for rehearing filed August 29, 2005, and the response thereto, it is **ORDERED** that the petition be denied.

Per Curiam

FOR THE COURT:
Mark J. Langer, Clerk

BY: /s
Michael C. McGrail
Deputy Clerk

*Circuit Judge Tatel would grant the petition for rehearing.

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 03-1361 **September Term, 2004**

COMMONWEALTH OF MASSACHUSETTS, ET AL.,
Petitioners
ENVIRONMENTAL PROTECTION AGENCY,
Respondent

UNITED STATES COURT OF APPEALS
FOR DISTRICT OF COLUMBIA CIRCUIT

FILED AUG 15 2005

ALLIANCE OF AUTOMOBILE MANUFACTURERS, ET AL.,
Intervenors

Consolidated with 03-1362, 03-1363, 03-1364, 03-1365, 03-1366, 03-1367, 03-1368,

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On Petitions for Review of an Order of the
Environmental Protection Agency

Before: Sentelle, Randolph and Tatel, *Circuit Judges*

JUDGMENT

These causes came on to be heard on the petitions for review of an order of the Environmental Protection Agency and were argued by counsel. On consideration thereof, it is

ORDERED and ADJUDGED that the petitions for review in No. 03-1361, 03-1362, 03-1363, and 03-1364 are hereby denied and the petitions for review in No. 03-1365, 03-1366, 03-1367, and 03-1368 are hereby dismissed, in accordance with the opinion of the court filed herein this date.

MANDATE

Pursuant to the provisions of Fed.R.App.Pro.41(a)

ISSUED: 12, 23, 05

BY: /s_____, Deputy Clerk

ATTACHED: __ Amending Order

__ Opinion

__ Order on Costs

Per Curiam

FOR THE COURT:
Mark J. Langer, Clerk

BY: /s
Michael C. McGrail
Deputy Clerk

Date: August 15, 2005

Opinion for the court filed by Circuit Judge Randolph.

Opinion dissenting in part and concurring in the judgment filed by Circuit Judge Sentelle.

Dissenting opinion filed by Circuit Judge Tatel.

STATUTES INVOLVED

CLEAN AIR ACT: Sections 202(a)(1), -(a)(2)

42 U.S.C. §7521. Emission standards for new motor vehicles or new motor vehicle engines

(a) Authority of Administrator to prescribe by regulation

Except as otherwise provided in subsection (b) of this section -

(1) The Administrator shall by regulation prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare. Such standards shall be applicable to such vehicles and engines for their useful life (as determined under subsection (d) of this section, relating to useful life of vehicles for purposes of certification), whether such vehicles and engines are designed as complete systems or incorporate devices to prevent or control such pollution.

(2) Any regulation prescribed under paragraph (1) of this subsection (and any revision thereof) shall take effect after such period as the Administrator finds necessary to permit the development and application of

therequisitetechnology,givingappropriateconsideration to the cost of compliance within such period.

CLEAN AIR ACT: Sections 302(g) and (h)

42 U.S.C. § 7602. Definitions

When used in this chapter -

(g) The term "air pollutant" means any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive (including source material, special nuclear material, and by product material) substance or matter which is emitted into or otherwise enters the ambient air. Such term includes any precursors to the formation of any air pollutant, to the extent the Administrator has identified such precursor or precursors for the particular purpose for which the term "air pollutant" is used.

(h) All language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants.

No. 05-1120

In the Supreme Court of the United States

COMMONWEALTH OF MASSACHUSETTS, *et al.*

Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,

Respondent.

On Petition For A Writ of Certiorari To The United States Court of Appeals For The District of Columbia Circuit

BRIEF IN OPPOSITION FOR THE RESPONDENT STATES OF MICHIGAN, TEXAS, IDAHO, NORTH DAKOTA, UTAH, SOUTH DAKOTA, ALASKA, KANSAS, NEBRASKA, AND OHIO

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QUESTION PRESENTED

The State Respondents intervened below in support of the United States Environmental Protection Agency ("EPA"). The arguments the State Respondents presented to the Court of Appeals were tailored to their interests and were intended only to supplement EPA's arguments.

The issue the State Respondents addressed before the Court of Appeals was whether EPA lacks the authority under the Clean Air Act ("CAA" or "Act") to regulate the emission of carbon dioxide and other greenhouse gases to address global climate change. The question presented by the State Respondents to this Court is whether the Petition for a Writ of Certiorari should be denied for two independent reasons: (1) the Court of Appeals correctly dismissed the petitions for review given the fact that EPA lacks such authority, and (2) the Court of Appeals' decision is not binding precedent.

PARTIES TO THE PROCEEDING

Petitioners, who were petitioners in the United States Court of Appeals for the District of Columbia Circuit, are the Commonwealth of Massachusetts, the states of California, Connecticut, Illinois, Maine, New Jersey, New Mexico, New York, Oregon, Rhode Island, Vermont, and Washington, the District of Columbia, American Samoa Government, New York City, Mayor and City Council of Baltimore, Center for Biological Diversity, Center for Food Safety, Conservation Law Foundation, Environmental Advocates, Environmental Defense, Friends of the Earth, Greenpeace, International Center for Technology Assessment, National Environmental Trust, Natural Resources Defense Council, Sierra Club, Union of Concerned Scientists, and U.S. Public Interest Research Group.

Respondents are EPA (the respondent below); the Alliance of Automobile Manufacturers; National Automobile Dealers Association; Engine Manufacturers Association; Truck Manufacturers Association; CO_2 Litigation Group; Utility Air Regulatory Group; and the States of Michigan, Texas, Idaho, North Dakota, Utah, South Dakota, Alaska, Kansas, Nebraska, and Ohio (collectively, the "State Respondents"). All of the Respondents other than EPA were intervenors below.

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OPINIONS BELOW

The decision of the Court of Appeals is reported at 415 F.3d 50 (D.C. Cir. 2005) and is reproduced in the Petitioners' Appendix (Pet. App. 1-58). The Court of Appeals' order denying Petitioners' petition for rehearing *en banc* is reported at 433 F.3d 66 (D.C. Cir. 2005) and is reproduced in the Petitioners' Appendix (Pet. App. 94-97).

JURISDICTION

The judgment of the Court of Appeals was entered on August 15, 2005. The Court of Appeals' order denying the petition for rehearing *en banc* was entered on December 2, 2005. The jurisdiction of this Court is invoked under 28 U.S.C. § 1254(1).

STATUTORY PROVISIONS INVOLVED

The statutory provisions involved in the case are Sections 108(a), 109(a) and (b), 110(a), and 202(a)(1) of the Act.[1] The pertinent statutory text is set out in the State Respondents' Appendix (State Resp. App. 1b – 14b).

STATEMENT

Petitioners challenge the denial by EPA of a petition for rulemaking that sought the regulation of emissions of carbon dioxide ("CO_2") and other greenhouse gases from new motor vehicles and engines under Section 202 of the CAA, 42 U.S.C. § 7521.

EPA's denial of the petition was based on the agency's position that the CAA "does not authorize EPA to regulate for global climate change purposes[.]"[2] EPA therefore determined

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[1] 42 U.S.C. §§ 7408(a), 7409(a) and (b), 7410(a), 7521(a)(1).

[2] 68 Fed. Reg. 52,922; 52,925 (Sept. 8, 2003).

that CO_2 and other greenhouse gases cannot be considered "air pollutants" subject to the CAA's regulatory provisions for any contribution they may make to global climate change.[3] EPA also concluded that even if it did have such authority, it would not exercise it at this time because of uncertainties about the causes and effects of climate change and additional policy considerations.[4]

Petitioners filed petitions for review in the U.S. Court of Appeals for the District of Columbia Circuit challenging EPA's denial of their petition for rulemaking. The three-member panel issued three separate opinions. Two of the opinions (the lead opinion by Judge Randolph and an opinion concurring in the judgment by Judge Sentelle) concluded that the petitions for review should be denied, but for different reasons. Importantly, none of the opinions commanded a majority of the panel members. The panel's decision therefore has no binding precedential effect.

1. Statutory Framework

The Act, 42 U.S.C. §§ 7401-7671q, establishes "a comprehensive national program that ma[kes] the States and the Federal Government partners in the struggle against air pollution."[5] Under the Act, EPA establishes national ambient air quality standards ("NAAQS") for certain air pollutants, and states must then develop state implementation plans to implement, maintain and enforce the NAAQS.[6]

More specifically, Section 108(a) directs EPA to create a list of air pollutants that "in the Administrator's judgment, cause or

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[3] *Id.*

[4] *Id.*, at 52,929-33.

[5] *General Motors Corp. v. United States*, 496 U.S. 530, 532 (1990).

[6] *Train v. Natural Resources Defense Council*, 421 U.S. 60, 64-65 (1975).

contribute to air pollution which may reasonably be anticipated to endanger public health or welfare[.]"[7] Section 109 of the Act directs EPA to promulgate NAAQS to protect against adverse health and welfare effects for each pollutant identified under Section 108.[8]

States have "primary responsibility" for assuring that air quality within their borders meets the national standards.[9] States satisfy this burden by submitting to EPA state implementation plans ("SIPs") that provide for the attainment of the NAAQS.[10] SIPs must include enforceable emissions limitations for air pollution sources within a state and other control measures that are "necessary or appropriate" to meet the NAAQS, as well as a program for enforcing such measures.[11]

Taken together, Sections 109 and 110 are the cornerstone for much of the Act. As this Court has observed, EPA's setting of the NAAQS under Section 109(b) is "the engine that drives nearly all of Title I of the CAA[.]"[12] Similarly, the states' development of SIPs under Section 110 is "one of the key provisions of the Act."[13]

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[7] 42 U.S.C. § 7408(a)(1).

[8] 42 U.S.C. § 7409(a) and (b).

[9] 42 U.S.C. § 7407(a).

[10] 42 U S.C. § 7410(a).

[11] 42 U.S.C. § 7410(a)(2)(A).

[12] *Whitman v. American Trucking Ass'n, Inc.*, 531 U.S. 457, 468 (2001). Title I of the Act, 42 U.S.C. §§ 7401-7515, includes provisions regarding standards of performance for new stationary sources, regulation of hazardous air pollutants, preventing the significant deterioration of air quality in attainment areas, and improving air quality in nonattainment areas. 42 U.S.C. §§ 7411, 7412, 7470-92, 7501-15.

[13] *Virginia v. EPA*, 108 F.3d 1397, 1406 (D.C. Cir. 1997).

The states achieve the NAAQS "chiefly by regulating stationary sources, such as factories and power plants" through their SIPs.[14] In contrast to the states control over stationary sources, regulation of motor vehicle emissions is primarily a federal responsibility. Only the United States and California can establish emission standards for new motor vehicles and new motor vehicle engines.[15]

Although much air pollution is a local or regional problem, some pollution that results in the nonattainment of a NAAQS "is caused or augmented by emissions" from sources beyond a state's borders.[16] The CAA contains certain provisions to address emissions from 'upwind' states that pollute 'downwind' states.

For example, Section 110 requires a state's SIP to contain provisions to prohibit emissions within the state which "contribute significantly" to another state's nonattainment of a NAAQS.[17] Under Section 126, a downwind state can petition EPA to regulate upwind sources of air pollution that contribute significantly to a downwind state's nonattainment.[18] In addition, a state can sue an upwind source directly when the source is contributing to the downwind state's nonattainment of a NAAQS due to, among other things, the violation of an emission limitation.[19]

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[14] *Engine Mfrs. Ass'n v. EPA*, 88 F.3d 1075, 1078-79 (D.C. Cir. 1996).

[15] 42 U.S.C. §§ 7511(a), 7543(a) and (b); *see Engine Mfrs.*, 88 F.3d at 1079-80. The Act requires the states to implement, among other things, clean-fuel vehicles programs and motor vehicle inspection and maintenance programs in areas that have not attained the NAAQS. *See* 42 U.S.C. §§ 7511a(c)(3) and (4)(requiring such programs in "serious" nonattainment areas). The "thrust of state compliance efforts" is, however, reducing emissions from stationary sources. *Engine Mfrs.*, 88 F.3d at 1080.

[16] *Appalachian Power Co. v. EPA*, 249 F.3d 1032, 1037 (D.C. Cir. 2001).

[17] 42 U.S.C. § 7410(a)(2)(D)(i)(I).

[18] 42 U.S.C. § 7426(b).

[19] 42 U.S.C. § 7604(a).

The Act, however, does not contain *any* provision for states to reduce air pollution from sources outside of the United States. Therefore, if international sources of air pollution are contributing to a state's inability to meet a NAAQS, the states have no authority under the Act to limit emissions from such sources.

2. Proceedings before EPA

On October 20, 1999, Petitioner International Center for Technology Assessment and 18 other organizations filed a petition for rulemaking (the "ICTA Petition") asking EPA to regulate certain greenhouse gas emission for new motor vehicles and engines under Section 202(a)(1) of the CAA, 42 U.S.C. § 7521(a)(1). In particular, the petition sought the regulation of CO_2, methane, nitrous oxide and hydroflourocarbon emissions from new motor vehicles and engines.

Section 202(a)(1) of the Act states that EPA shall prescribe standards for emissions of air poliutants from new motor vehicles and engines that "in his judgment cause, or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare."[20] Petitioners claim that CO_2 and other greenhouse gases are air pollutants that contribute significantly to global climate change.[21]

On September 8, 2003, EPA denied the ICTA Petition. EPA concluded that the CAA "does not authorize EPA to regulate for global climate change purposes[.]"[22] The agency therefore determined that CO_2 and other greenhouse gases cannot be considered "air pollutants" subject to the Act's regulatory

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[20] 42 U.S.C. § 7521(a)(1).

[21] 68 Fed. Reg. at 52,923.

[22] *Id.*, at 52,925.

provisions, including Sections 108 and 109, for any contribution they may make to global climate change.[23]

In reaching its conclusion, EPA analyzed the text and history of the CAA as well other congressional actions specifically addressing global climate change. EPA emphasized that "the NAAQS system – a key CAA regulatory mechanism – . . . . is fundamentally inadequate when it comes to a substance like CO_2, which is emitted globally and has relatively homogenous concentrations around the world."[24] EPA explained that "any CO_2 standard that might be established would in effect be a worldwide ambient air quality standard, not a national standard – the entire world would be either in compliance or out of compliance."[25] This situation "is inconsistent with a basic underlying premise of the CAA regime for implementation of a NAAQS – that actions taken by individual states and by EPA can generally bring all areas of the U.S. into attainment of a NAAQS."[26] The inadequacy of one of the Act's central regulatory provisions (the NAAQS system) to address global climate change reinforced EPA's conclusion that the CAA as a whole, including section 202, did not authorize the agency to regulate for global climate change purposes.

3. Proceedings before the U.S. Court of Appeals for the District of Columbia Circuit

The Court of Appeals dismissed the petitions for review. It did not, however, address the question of whether EPA has the authority under the Act to regulate greenhouse gas emissions to address global climate change. Instead, Judge Randolph, who authored the lead opinion and whose views were not shared by

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[23] *Id.*, at 52,925; 52,928.

[24] *Id.*, at 52,927.

[25] *Id.*

[26] *Id.*

any of the other panel members, assumed *arguendo* that EPA had such authority. *Massachusetts v. EPA*, 415 F.3d 50, 56 (D.C. Cir. 2005). He determined that the agency correctly exercised its discretion in concluding that regulation of greenhouse gas emissions from motor vehicles was not warranted. According to Judge Randolph, the agency's judgment was properly based on, among other things, the "scientific uncertainty about the causal effects of greenhouse gases on the future climate of the earth" and policy considerations that supported EPA's judgment not to regulate at this time. *Id.*, at 58.

Judge Sentelle concurred in the judgment dismissing the petitions for review. He concluded that Petitioners lacked standing because their "claimed injury is common to all members of the public" and is "the sort of general harm" that is insufficient to present a justiciable controversy under Article III of the Constitution. *Id.*, at 60. Judge Sentelle did not address the questions of whether EPA has the authority to regulate greenhouse gas emissions or whether EPA properly exercised its discretion in deciding not to regulate.

Judge Tatel dissented. He concluded that at least one Petitioner had standing, that EPA had the authority to regulate greenhouse gas emissions under Section 202 of the Act, and that EPA had not adequately explained its refusal to regulate at this time.

The panel denied a petition for hearing. On December 2, 2005, the panel denied a petition for rehearing *en banc*. (Pet. App. 94-97).

REASONS FOR DENYING THE PETITION

The judgment of the Court of Appeals is correct, and does not present an important federal question because it has no binding precedential effect.

A. The Court of Appeals correctly dismissed the petitions for review because the Act does not authorize EPA to regulate greenhouse gas emissions for purposes of global climate change.

EPA's determination that the CAA does not provide the agency with the authority to regulate greenhouse gases to address global climate change was based, in part, upon the text and structure of the Act as a whole. Among the Act's provisions that EPA analyzed was "a key CAA regulatory mechanism" – the NAAQS system.[27]

A large percentage of worldwide CO_2 emissions comes from outside of the United States.[28] Concentrations of CO_2 in the atmosphere are relatively homogenous throughout the world. A NAAQS for CO_2 therefore "could not be attained by any area of the U.S. until such a standard were attained by the entire world as a result of emissions controls implemented in countries around the world."[29]

Nothing in the Act, however, gives states the authority to control CO_2 emissions from sources outside of the United States. States can limit emissions from sources within their borders

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[27] 68 Fed. Reg. at 52,927. Although it is instructive to analyze the NAAQS system and Section 108, the State Respondents note that Petitioners seek regulation of greenhouse gas emissions only from new motor vehicles and engines under Section 202. Indeed, the factors to be considered in determining whether EPA has the authority to regulate greenhouse gases under Section 202 are not the same as those under Section 108.

[28] *Id.* at 52,925-29.

[29] *Id.*

through their SIPs. They can also petition EPA under section 126 to address air pollution sources in upwind states that contribute significantly to their nonattainment of a NAAQS, and they can use the citizen suit provision in the Act to sue such sources directly.[30] The Act, however, does not authorize states to limit air pollution from sources outside of the country.

Given the global nature of CO_2 emissions, its homogenous concentrations around the world, and the lack of authority for states to limit international sources of emissions, it would be impossible for states to attain a NAAQS for CO_2 by merely reducing emissions within their borders. As EPA noted, "the NAAQS system is fundamentally inadequate when it comes to a substance like CO_2, which is emitted globally and has relatively homogenous concentrations around the world."[31] An air quality standard for CO_2 would place states in the unworkable situation of having to attain that standard, but lacking the means to achieve it. Such an implausible and futile scenario establishes that Congress did not intend the NAAQS system to authorize regulation of CO_2 to address global climate change.[32]

Moreover, the failure of the NAAQS system– a regulatory provision central to the Act – to address global climate change demonstrates that the whole Act, including Section 202(a)(1), does not authorize regulation for global climate change purposes. Any suggestion that the Act authorizes regulation of greenhouse gases under Section 202(a)(1) but not under the NAAQS system ignores the principal that statutory interpretation requires an examination of not just a single sentence, but "the language and design of the statute as a whole."[33] It also ignores the fact that the

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[30] 42 U.S.C. §§ 7426(b), 7604(a).

[31] 68 Fed. Reg. at 52,927.

[32] *See Food and Drug Admin. v. Brown and Williamson Tobacco Corp.*, 529 U.S. 120, 141 (2000) (rejecting statutory interpretation that would result in an implausible regulatory scheme).

[33] *K-Mart Corp. v. Cartier, Inc.*, 486 U.S. 281, 291 (1988).

NAAQS system is "the engine that drives nearly all of Title I of the CAA[,]" which contains the majority of the statute's provisions.[34] The impossibility of states achieving a NAAQS for CO_2 demonstrates that the entire Act, including Section 202, does not authorize regulation of greenhouse gases for purposes of global climate change. The Court of Appeals therefore correctly dismissed the petitions for review.

B. The judgment of the Court of Appeals does not have any binding precedential effect.

Among Petitioners' arguments for a writ of certiorari is that the D.C. Circuit departed from this Court's precedents on statutory interpretation. Petitioners further assert that the alleged error is compounded by the fact that the D.C. Circuit is the "premier intermediate court for adjudicating issues of agency power and statutory interpretation." Petition for Writ of Certiorari, at 4.

Petitioners, however, fail to acknowledge that the judgment of the Court of Appeals has no binding precedential effect as to principles of statutory interpretation. Judge Randolph's lead opinion was his alone. Judge Sentelle concurred in the judgment but never addressed the issue of statutory interpretation. Instead, he determined that the petitions for review should be dismissed because none of the Petitioners demonstrated they have standing. Judge Tatel, writing in dissent, disagreed with both Judges Randolph and Sentelle.

The judgment of the Court of Appeals therefore is not binding precedent because none of the opinions commanded a majority of the panel.[35] Any purported error in the lead opinion

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[34] *Whitman*, 531 U.S. at 468.

[35] *See Texas v. Brown*, 460 U.S. 730, 737 (1983)(plurality view that does not command majority is not binding precedent); *Hertz v. Woodman*, 218 U.S. 205, 213-14 (1910)("[T]he principles of law involved not having been agreed upon by a majority of the court sitting prevents the case from becoming an authority for the determination of other cases[.]").

concerning statutory interpretation is not an "authoritative determination" for subsequent cases before the D.C. Circuit or other courts.[36] Moreover, the D.C. Circuit correctly dismissed the petitions for review because, as discussed previously, the Act does not authorize the regulation of greenhouse gases for the purpose of addressing global climate change.

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[36] *United States v. Pink*, 315 U.S. 203, 216 (1942)("While it was conclusive and binding upon the parties as respect that controversy, the lack of an agreement by a majority of the Court on the principles of law involved prevents it from being an authoritative determination for other cases.")(citation omitted).

CONCLUSION

The Petition for a Writ of Certiorari should be denied.

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APPENDIX

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42 U.S.C. § 7408. Air quality criteria and control techniques

(a) Air pollutant list; publication and revision by Administrator; issuance of air quality criteria for air pollutants

(1) For the purpose of establishing national primary and secondary ambient air quality standards, the Administrator shall within 30 days after the date of enactment of the Clean Air Amendments of 1970 [enacted Dec. 31, 1970] publish, and shall from time to time thereafter revise, a list which includes each air pollutant—

(A) emissions of which, in his judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare;

(B) the presence of which in the ambient air results from numerous or diverse mobile or stationary sources; and

(C) for which air quality criteria had not been issued before the date of enactment of the Clean Air Amendments of 1970 [enacted Dec. 31, 1970], but for which he plans to issue air quality criteria under this section.

(2) The Administrator shall issue air quality criteria for an air pollutant within 12 months after he has included such pollutant in a list under paragraph (1). Air quality criteria for an air pollutant shall accurately reflect the latest scientific knowledge useful in indicating the kind and extent of all identifiable effects on public health or welfare which may be expected from the presence of such pollutant in the ambient air, in varying quantities. The criteria for an air pollutant, to the extent practicable, shall include information on—

(A) those variable factors (including atmospheric conditions) which of themselves or in combination with other factors may alter the effects on public health or welfare of such air pollutant;

(B) the types of air pollutants which, when present in the atmosphere, may interact with such pollutant to produce an adverse effect on public health or welfare; and

(C) any known or anticipated adverse effects on welfare.

42 U.S.C. § 7409. National primary and secondary ambient air quality standards

(a) Promulgation

(1) The Administrator—

(A) within 30 days after the date of enactment of the Clean Air Amendments of 1970 [enacted Dec. 31, 1970], shall publish proposed regulations prescribing a national primary ambient air quality standard and a national secondary ambient air quality standard for each air pollutant for which air quality criteria have been issued prior to such date of enactment; and

(B) after a reasonable time for interested persons to submit written comments thereon (but no later than 90 days after the initial publication of such proposed standards) shall be regulation promulgate such proposed national primary and secondary ambient air quality standards with such modifications as he deems appropriate.

(2) With respect to any air pollutant for which air quality criteria are issued after the date of enactment of the Clean Air Amendments of 1970 [enacted Dec. 31, 1970], the Administrator shall publish, simultaneously with the issuance of such criteria and information, proposed national primary and secondary ambient air quality standards for any such pollutant. The procedure provided for in paragraph (1)(B) of this subsection shall apply to the promulgation of such standards.

(b) Protection of public health and welfare

(1) National primary ambient air quality standards, prescribed under subsection (a) shall be ambient air quality standards the attainment and maintenance of which in the

judgment of the Administrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health. Such primary standards may be revised in the same manner as promulgated.

(2) Any national secondary ambient air quality standard prescribed under subsection (a) shall specify a level of air quality the attainment and maintenance of which in the judgment of the Administrator, based on such criteria, is requisite to protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air. Such secondary standards may be revised in the same manner as promulgated.

42 U.S.C. § 7410. State implementation plans for national primary and secondary ambient air quality standards

(a) Adoption of plan by State; submission to Administrator; content of plan; revision; new sources; indirect source review program; supplemental or intermittent control systems

(1) Each State shall, after reasonable notice and public hearings, adopt and submit to the Administrator, within 3 years (or such shorter period as the Administrator may prescribe) after the promulgation of a national primary ambient air quality standard (or any revision thereof) under section 109 [42 USCS § 7409] for any air pollutant, a plan which provides for implementation, maintenance, and enforcement of such primary standard in each air quality control region (or portion thereof) within such State. In addition, such State shall adopt and submit to the Administrator (either as a part of a plan submitted under the preceding sentence or separately) within 3 years (or such shorter period as the Administrator may prescribe) after the promulgation of a national ambient air quality secondary standard (or revision thereof), a plan which provides for implementation, maintenance, and enforcement of such secondary standard in each air quality control region (or portion thereof) within such State. Unless a separate public hearing is provided, each State shall consider its plan implementing such secondary standard at the hearing required by the first sentence of this paragraph.

(2) Each implementation plan submitted by a State under this Act shall be adopted by the State after reasonable notice and public hearing. Each such plan shall—

(A) include enforceable emission limitations and other control measures, means, or techniques (including economic incentives such as fees, marketable permits, and auctions of emissions rights), as well as schedules

and timetables for compliance, as may be necessary or appropriate to meet the applicable requirements of this Act;

(B) provide for establishment and operation of appropriate devices, methods, systems, and procedures necessary to—

(i) monitor, compile, and analyze data on ambient air quality, and

(ii) upon request, make such data available to the Administrator;

(C) include a program to provide for the enforcement of the measures described in subparagraph (A), and regulation of the modification and construction of any stationary source within the areas covered by the plan as necessary to assure that national ambient air quality standards are achieved, including a permit program as required in parts C and D [42 USCS §§ 8470 et seq., 7502 et seq.];

(D) contain adequate provisions—

(i) prohibiting, consistent with the provisions of this title, any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will—

(I) contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard, or

(II) interfere with measures required to be included in the applicable implementation plan for any other State under part C [42 USCS §§

7470 et seq.] to prevent significant deterioration of air quality or to protect visibility,

(ii) insuring compliance with the applicable requirements of sections 126 and 115 [42 USCS §§ 7426, 7415] (relating to interstate and international pollution abatement);

(E) provide (i) necessary assurances that the State (or, except where the Administrator deems inappropriate, the general purpose local government or governments, or a regional agency designated by the State or general purpose local governments for such purpose) will have adequate personnel, funding, and authority under State (and, as appropriate, local) law to carry out such implementation plan (and is not prohibited by any provision of Federal or State law from carrying out such implementation plan or portion thereof), (ii) requirements that the State comply with the requirements respecting State boards under section 128 [42 USCS § 7428], and (iii) necessary assurances that, where the State has relied on a local or regional government, agency, or instrumentality for the implementation of any plan provision, the State has responsibility for ensuring adequate implementation of such plan provision;

(F) require, as may be prescribed by the Administrator—

(i) the installation, maintenance, and replacement of equipment, and the implementation of other necessary steps, by owners or operators of stationary sources to monitor emissions from such sources,

(ii) periodic reports on the nature and amounts of emissions and emissions-related data from such sources, and

(iii) correlation of such reports by the State agency with any emission limitations or standards established pursuant to this Act, which reports shall be available at reasonable times for public inspection;

(G) provide for authority comparable to that in section 303 [42 USCS § 7603] and adequate contingency plans to implement such authority;

(H) provide for revision of such plan—

(i) from time to time as may be necessary to take account of revisions of such national primary or secondary ambient air quality standard or the availability of improved or more expeditious methods of attaining such standard, and

(ii) except as provided in paragraph (3)(C), whenever the Administrator finds on the basis of information available to the Administrator that the plan is substantially inadequate to attain the national ambient air quality standard which it implements or to otherwise comply with any additional requirements established under this Act;

(I) in the case of a plan or plan revision for an area designated as a nonattainment area, meet the applicable requirements of part D [42 USCS §§ 7502 et seq.] (relating to nonattainment areas);

(J) meet the applicable requirements of section 121 [42 USCS § 7421] (relating to consultation), section 127 [42 USCS § 7427] (relating to public notification),

and part C [42 USCS §§ 7470 et seq.] (relating to prevention of significant deterioration of air quality and visibility protection);

(K) provide for—

(i) the performance of such air quality modeling as the Administrator may prescribe for the purpose of predicting the effect on ambient air quality of any emissions of any air pollutant for which the Administrator has established a national ambient air quality standard, and

(ii) the submission, upon request, of data related to such air quality modeling to the Administrator;

(L) require the owner or operator of each major stationary source to pay to the permitting authority, as a condition of any permit required under this Act, a fee sufficient to cover—

(i) the reasonable costs of reviewing and acting upon any application for such a permit, and

(ii) if the owner or operator receives a permit for such source, the reasonable costs of implementing and enforcing the terms and conditions of any such permit (not including any court costs or other costs associated with any enforcement action), until such fee requirement is superseded with respect to such sources by the Administrator's approval of a fee program under title V [42 USCS §§ 7661 et seq]; and

(M) provide for consultation and participation by local political subdivisions affected by the plan.

(3) (A) [Repealed]

(B) As soon as practicable, the Administrator shall, consistent with the purposes of this Act and the Energy Supply and Environmental Coordination Act of 1974, review each State's applicable implementation plans and report to the State on whether such plans can be revised in relation to fuel burning stationary sources (or persons supplying fuel to such sources) without interfering with the attainment and maintenance of any national ambient air quality standard within the period permitted in this section. If the Administrator determines that any such plan can be revised, he shall notify the State that a plan revision may be submitted by the State. Any plan revision which is submitted by the State shall, after public notice and opportunity for public hearing, be approved by the Administrator if the revision relates only to fuel burning stationary sources (or persons supplying fuel to such sources), and the plan as revised complies with paragraph (2) of this subsection. The Administrator shall approve or disapprove any revision no later than three months after its submission.

(C) Neither the State, in the case of a plan (or portion thereof) approved under this subsection, nor the Administrator, in the case of a plan (or portion thereof) promulgated under subsection (c), shall be required to revise an applicable implementation plan because one or more exemptions under section 118 [42 USCS § 7418] (relating to Federal facilities), enforcement orders under section 113(d), suspensions under section 110(f) or (g) [subsecs. (f) or (g) of this section] (relating to temporary energy or economic authority), orders under section 119 [42 USCS § 7419](relating to primary nonferrous smelters), or extensions of compliance in decrees entered under section 113(e) (relating to iron- and steel-producing operations) have been granted, if such plan would have met the

requirements of this section if no such exemptions, orders, or extensions had been granted.

(4) [Repealed]

(5) (A) (i) Any State may include in a State implementation plan, but the Administrator may not require as a condition of approval of such plan under this section, any indirect source review program. The Administrator may approve and enforce, as part of an applicable implementation plan, an indirect source review program which the State chooses to adopt and submit as part of its plan.

(ii) Except as provided in subparagraph (B), no plan promulgated by the Administrator shall include any indirect source review program for any air quality control region, or portion thereof.

(iii) Any State may revise an applicable implementation plan approved under section 110(a) [42 USCS § 7410(a)] to suspend or revoke any such program included in such plan, provided that such plan meets the requirements of this section.

(B) The Administrator shall have the authority to promulgate, implement and enforce regulations under section 110(c) [42 USCS § 7410(c)] respecting indirect source review programs which apply only to federally assisted highways, airports, and other major federally assisted indirect sources and federally owned or operated indirect sources.

(C) For purposes of this paragraph, the term "indirect source" means a facility, building, structure, installation, real property, road, or highway which attracts, or may attract, mobile sources of pollution. Such term includes parking lots, parking garages, and

other facilities subject to any measure for management of parking supply (within the meaning of section 110(c)(2)(D)(ii) [42 USCS § 7410(c)(2)(D)(ii)]), including regulation of existing off-street parking but such term does not include new or existing on-street parking. Direct emissions sources or facilities at, within, or associated with, any indirect source shall not be deemed indirect sources for the purpose of this paragraph.

(D) For purposes of this paragraph the term "indirect source review program" means the facility-by-facility review of indirect sources of air pollution, including such measures as are necessary to assure, or assist in assuring, that a new or modified indirect source will not attract mobile sources of air pollution, the emissions from which would cause or contribute to air pollution concentrations—

(i) exceeding any national primary ambient air quality standard for a mobile source-related air pollutant after the primary standard attainment date, or

(ii) preventing maintenance of any such standard after such date.

(E) For purposes of this paragraph and paragraph (2)(B), the term "transportation control measure" does not include any measure which is an "indirect source review program".

(6) No State plan shall be treated as meeting the requirements of this section unless such plan provides that in the case of any source which uses a supplemental, or intermittent control system for purposes of meeting the requirements of an order under section 113(d) or section 119 (relating to primary nonferrous smelter orders) [42

USCS § 7419], the owner or operator of such source may not temporarily reduce the pay of any employee by reason of the use of such supplemental or intermittent or other dispersion dependent control system.

42 U.S.C. § 7521. Emission standards for new motor vehicles or new motor vehicle engines

(a) Authority of Administrator to prescribe by regulation

Except as otherwise provided in subsection (b) of this section—

(1) The Administrator shall by regulation prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare. Such standards shall be applicable to such vehicles and engines for their useful life (as determined under subsection (d), relating to useful life of vehicles for purposes of certification), whether such vehicles and engines are designed as complete systems or incorporate devices to prevent or control such pollution.

(4)

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No. 05-1120

In the Supreme Court of the United States

COMMONWEALTH OF MASSACHUSETTS, ET AL.,
PETITIONERS

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

BRIEF FOR THE FEDERAL RESPONDENT IN OPPOSITION

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QUESTIONS PRESENTED

1. Whether, in this challenge to the denial by the Environmental Protection Agency of petitioners' rulemaking petition, petitioners adequately established standing—*i.e.*, that their alleged injuries were caused by the denial of the rulemaking petition and would be redressed by a judicial decision in their favor in this case.

2. Whether the court of appeals correctly determined that EPA lawfully exercised its discretion in denying petitioners' rulemaking petition seeking regulation of carbon dioxide and other greenhouse gas emissions from mobile sources (such as cars and light trucks) under Section 202(a)(1) of the Clean Air Act, 42 U.S.C. 7521(a)(1), where, among other things, EPA believed pertinent scientific and technological issues could be better analyzed after the completion of ongoing studies.

3. Whether EPA correctly determined that the Clean Air Act does not in any event give it authority to regulate greenhouse gas emissions for the purpose of addressing concerns about global climate change.

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BRIEF FOR THE FEDERAL RESPONDENT IN OPPOSITION

OPINIONS BELOW

The opinion of the court of appeals (Pet. App. A1-A58) is reported at 415 F.3d 50. The decision of the Environmental Protection Agency (Pet. App. A59-A97) is published at 68 Fed. Reg. 52,922.

JURISDICTION

The judgment of the court of appeals was entered on July 15, 2005. Petitions for rehearing were denied on December 2, 2005 (Pet. App. A94-A98). The petition for a writ of certiorari was filed on March 2, 2006. The jurisdiction of this Court is invoked under 28 U.S.C. 1254(1).

STATEMENT

Petitioners seek review of a decision of the court of appeals upholding the denial by the Environmental Protection Agency (EPA) of a rulemaking petition seeking regulation of emissions of carbon dioxide and three other greenhouse gases from new motor vehicles under the Clean Air Act (CAA), 42 U.S.C. 7401 *et seq.* In denying the petition, EPA first determined that it did not have authority under the CAA to regulate emissions of greenhouse gases to address concerns about climate change. See Pet. App. A59-A93. The Agency further explained that even if it had the requisite regulatory authority, it would still deny the rulemaking petition for a number of other reasons, including its desire to have the benefit of ongoing scientific and technical studies before making a regulatory decision of such complexity and potential effect. *Id.* at A80-A87. Numerous petitioners challenged the denial of the rulemaking petition, but the court of appeals denied their petitions for review. See *id.* at A1-A58.

1. Sections 108 and 109 of Title I of the CAA, 42 U.S.C. 7408-7409, authorize EPA to set national ambient air quality standards (NAAQS) for air pollutants that cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare and that are emitted by numerous or diverse sources. Section 110 of the CAA, 42 U.S.C. 7410, establishes a federal-state partnership for meeting NAAQS in local air quality control regions through state implementation plans.

While most of the provisions in Title I of the CAA focus on stationary sources of air pollution, Title II of the Act establishes a regulatory framework for federal control of pollution from motor vehicles and other mobile sources. See CAA Sections 202-250, 42 U.S.C. 7521-7590. This case

specifically involves Section 202(a)(1) of the CAA, 42 U.S.C. 7521(a)(1), which authorizes EPA to "prescribe * * * standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in [EPA's] judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare."

Section 302 of the Act, 42 U.S.C. 7602, sets forth general definitions applicable to the CAA as a whole. Section 302(g), 42 U.S.C. 7602(g), defines "air pollutant" as "any air pollution agent or combination of such agents, including any physical, chemical, biological, [or] radioactive * * * substance or matter which is emitted into or otherwise enters the ambient air[,]" including any precursors to the formation of such air pollutant. "[E]ffects on welfare" is defined to include "effects on soils, water, crops, vegetation, man-made materials, animals, wildlife, weather, visibility, and climate, and damage to * * * property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being." 42 U.S.C. 7602(h).

2. On October 20, 1999, the International Center for Technology Assessment and several other parties filed a rulemaking petition asking EPA to regulate emissions of carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons from new motor vehicles. The petition alleged that emissions of those "greenhouse gas[es]" from motor vehicles contributed to global climate change, satisfied the criteria for regulation under Section 202(a)(1) of the Act, 42 U.S.C. 7521(a)(1), and would be feasible for EPA to regulate. See Pet. App. A59-A63. After soliciting and considering approximately 50,000 public comments, see *id.* at A63, EPA issued a written decision denying the petition. *Id.* at A59-A93.

EPA first concluded that Congress did not provide it with authority in the CAA to regulate carbon dioxide and other greenhouse gases to address concerns about global climate change. Pet. App. A67, A68-A79. EPA explained that it must be cautious about "using broadly worded statutory authority to regulate in areas raising unusually significant economic and political issues when Congress has specifically addressed those areas in other statutes." *Id.* at A68 (citing *FDA* v. *Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000)). In that regard, EPA noted that the only provisions of the Act that specifically mention carbon dioxide or "global warming" are non-regulatory in nature, and pointed out that when Congress elsewhere wanted to address an analogous type of global environmental issue—stratospheric ozone depletion—it added an entirely new set of provisions to the CAA specifically tailored to that problem and its international dimensions. *Id.* at A70-A72. EPA further noted that Congress had enacted non-CAA legislation in recent years specifically directed to climate change, and had rejected numerous attempts to give EPA authority to regulate greenhouse gas emissions to address climate change. *Id.* at A75. For those and other reasons, EPA determined that the CAA, read as a whole, did not provide the Agency with authority to promulgate the type of regulation sought by petitioners. *Id.* at A78.

EPA also explained why, even if it had the requisite CAA regulatory authority, it would deny the rulemaking petition. Based in large part on its review of a 2001 report on global climate change by the National Research Council (NRC), EPA identified numerous areas of scientific uncertainty involving the mechanisms of climate change, its potential effects on human health and the environment, and the means by which such issues can most effectively be addressed. Pet. App. A82-A84. Noting NRC's conclusion that

"[t]he understanding of the relationships between weather/climate and human health is in its infancy and therefore the health consequences of climate change are poorly understood," EPA found that "[s]ubstantial scientific uncertainties limit our ability to assess each of these factors and to separate out those changes resulting from natural variability from those that are directly the result of increases in anthropogenic [greenhouse gases]." *Id.* at A84; see *id.* at A83 (the "science of climate change is extraordinarily complex and still evolving"). EPA explained that "[u]ntil more is understood about the causes, extent and significance of climate change and the potential options for addressing it, EPA believes it is inappropriate to regulate [greenhouse gas] emissions from motor vehicles." *Id.* at A86. EPA identified a variety of ongoing efforts that were then underway to further investigate the areas of scientific and technical uncertainty, and explained its view that "establishing [greenhouse gas] emission standards for U.S. motor vehicles at this time would require EPA to make scientific and technical judgments without the benefit of the studies being developed to reduce uncertainties and advance technologies." *Id.* at A85.

EPA also explained that any effort by it to regulate greenhouse gas emissions from motor vehicles at this time would necessarily raise other important legal and policy concerns, such as possible interference with foreign policy considerations including the United States' negotiations with developing nations. Pet. App. A86. In addition, since at present "the only practical way to reduce tailpipe emissions of [carbon dioxide] is to improve fuel economy," *id.* at A79, a regulation directed to that end would present problems of coordination and inconsistency with the statutory scheme of the Energy Policy and Conservation Act (EPCA), 49 U.S.C. 32901-32919, which authorizes the De-

partment of Transportation (DOT) to set fuel economy standards. Pet. App. A79-A80, A86-A87.[1]

3. Numerous petitions for review of EPA's denial of the rulemaking petition were filed in the D.C. Circuit. On July 15, 2005, the court of appeals decided the consolidated case in EPA's favor, finding that the challenges to EPA's action should be denied. Pet. App. A1-A58.[2] Judge Randolph filed the judgment of the court, but each of the three judges on the panel filed a separate opinion adopting a distinct analysis.

a. EPA challenged petitioners' standing to bring this case, arguing that petitioners had failed to show causation (*i.e.*, that their alleged injuries were caused by EPA's decision not to regulate emissions of greenhouse gases from new motor vehicles) and redressability (*i.e.*, that their alleged injuries could be redressed by a judicial decision in their favor in this case). Judge Randolph stated that the declarations submitted by petitioners "'support each element' of standing" sufficiently to survive a summary judgment motion. Pet. App. A8 (quoting *Sierra Club* v. *EPA*,

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[1] In EPCA, Congress set the corporate average fuel economy (CAFE) standard for "passenger automobile[s]" (a term that includes a variety of vehicles carrying up to 10 passengers). 49 U.S.C. 32901(a)(16), 32902(b). Congress also provided that any DOT action increasing (or significantly decreasing) the stringency of the standard be subject to congressional review and potential disapproval. 49 U.S.C. 32902(c). Moreover, Congress designed EPCA to allow automobile manufacturers substantial flexibility in meeting CAFE standards through credit banking and borrowing provisions. 49 U.S.C. 32903.

[2] Several of the petitions for review attempted to challenge the memorandum by EPA's General Counsel that was cited in EPA's decision. See Pet. App. A6. Judge Randolph rejected those challenges, on the ground that the memorandum was not final agency action subject to judicial review. *Ibid.* Neither Judge Sentelle nor Judge Tatel dissented from that disposition or otherwise discussed it.

292 F.3d 895, 899 (D.C. Cir. 2002)). But he observed that the record also "contains a wealth of * * * 'other evidence,' and some of it contradicts petitioners' claim that greenhouse gas emissions from new motor vehicles have caused or will cause a significant change in the global climate." *Id.* at A9. He concluded that, in that unusual situation, the court should "proceed to the merits with respect to EPA's alternative decision not to regulate on the grounds, among others, that the effect of greenhouse gases on climate is unclear and that models used to predict climate change might not be accurate." *Ibid.* See *id.* at A9-A10; *Steel Co.* v. *Citizens for a Better Env't*, 523 U.S. 83, 97 n.2 (1998) (discussing permissibility of proceeding to the merits before resolving statutory standing issues).

Judge Sentelle concluded that petitioners did not have standing. In his view, they had "alleged and shown no harm particularized to themselves," Pet. App. A17, but instead had merely shown that "[e]mission of certain gases that the EPA is not regulating may cause an increase in the temperature of the earth," that "[t]his is harmful to humanity at large," and that "[p]etitioners are or represent segments of humanity at large," *id.* at A18. In Judge Sentelle's view, that "would appear to be neither more nor less than the sort of general harm eschewed as insufficient to make out an Article III controversy by the Supreme Court and lower courts." *Ibid.* Nonetheless, because his preferred resolution of the case (dismissal for lack of jurisdiction) was different from the resolutions urged respectively by Judge Randolph (denial of the petition for review) and Judge Tatel (grant of the petition for review) and thus would have prevented issuance of any judgment commanding a majority of the court, Judge Sentelle accepted as law of the case the view of Judges Randolph and Tatel that the court had jurisdiction to issue a judgment and then "join[ed] Judge

Randolph in the issuance of a judgment closest to that which [Judge Sentelle himself] would issue." *Id.* at A20.

Judge Tatel, alone of the panel members, concluded that petitioners had shown that they had standing in this case. In his view, the declarations submitted by Massachusetts adequately established that global warming would cost the State a particularized "loss of land within its sovereign boundaries" as sea levels rise. Pet. App. A27. He concluded that, with respect to causation, other declarations adequately established "that global warming is chiefly triggered by human-caused [greenhouse gas] emissions." *Id.* at A28. With respect to redressability, he found that a declaration submitted by petitioners adequately established that regulating greenhouse gas emissions from motor vehicles in the United States "would . . . delay and moderate many of the adverse impacts of global warming." *Id.* at A29. He also noted that another declaration asserted that a decision by EPA to regulate greenhouse gases would lead to improved technologies, which would in time be required by other countries around the world. *Ibid.* Finally, he stated that no factual disputes on those issues had to be resolved, because EPA did not cite or otherwise advance any record evidence in support of contrary findings. *Id.* at A30.

b. On the merits, Judge Randolph stated that he would merely "assume *arguendo* that EPA has statutory authority to regulate greenhouse gases from new motor vehicles," Pet. App. A10, but that the petition for review should nonetheless be denied because the Administrator "properly exercised his discretion * * * in denying the petition for rulemaking," *id.* at A15. He noted the substantial uncertainty in the "current understanding of how the climate system varies naturally and reacts to emissions of greenhouse gases," an uncertainty that "is compounded by the

possibility for error inherent in the assumptions necessary to predict future climate change." *Id.* at A12. He also noted that, because Section 202(a)(1) "directs the Administrator to regulate emissions that 'in his judgment' 'may reasonably be anticipated to endanger public health or welfare," it "gives the Administrator considerable discretion" to take into account not only "scientific evidence" but also what may be called "policy judgments." *Id.* at A13. He concluded that, especially given that the rulemaking petition required EPA to "resolve issues 'on the frontiers of scientific knowledge,'" the "EPA Administrator properly exercised his discretion under § 202(a)(1) in denying the petition for rulemaking." *Id.* at A15 (quoting *Environmental Def. Fund* v. *EPA*, 598 F.2d 62, 82 (D.C. Cir. 1978)).

As noted above, Judge Sentelle did not address the merits of EPA's denial of the petition for rulemaking in his opinion.

Judge Tatel dissented. Pet. App. A21-A58. In his view, EPA had erred in concluding that it had no statutory authority to regulate greenhouse gas emissions from motor vehicles—an issue on which neither of the other panel members expressed an opinion. *Id.* at A31-A42. Judge Tatel also stated that EPA had erred in concluding that, even if it did have that regulatory authority, it would nonetheless decline to make an "endangerment" finding here. In his view, Section 202(a)(1) authorizes the EPA Administrator, in determining whether a pollutant "in his judgment cause[s], or contribute[s] to, air pollution which may reasonably be anticipated to endanger public health or welfare," only "to determin[e] whether the statutory standard for endangerment has been met." *Id.* at A46. Moreover, Judge Tatel concluded that the scientific uncertainties associated with global warming, see *id.* at A50-A54, the overlapping responsibilities of the Department of Transportation in

setting fuel economy standards, see *id.* at A55, and the potential for interference with the United States' ongoing negotiations with other nations, see *id.* at A56, did not justify EPA's action.

4. The court of appeals denied a petition for rehearing en banc. See Pet. App. A94-A97. Judge Tatel filed an opinion dissenting from the denial of rehearing en banc, in which Judge Rogers joined. See *id.* at A95-A98. Judge Griffith also would have granted the petition for rehearing en banc, but he did not join Judge Tatel's dissent from the denial of that petition. *Id.* at A95.

ARGUMENT

Petitioners argue that the Clean Air Act required EPA to embark on the extraordinarily complex and scientifically uncertain task of addressing the global issue of greenhouse gas emissions by regulating mobile sources of such emissions in the United States. Although the court of appeals did not itself reach a firm conclusion regarding petitioners' standing, petitioners failed to make the necessary showing of causation and redressability to satisfy Article III standing requirements. On the merits, EPA reasonably concluded that regulation of greenhouse gases by means of vehicle emissions standards is neither authorized by the Clean Air Act nor an appropriate exercise of agency authority at the present time and on the existing record. The judgment of the court of appeals upholding that decision—which is supported by separate opinions of the panel members rather than a single majority opinion and thus would provide a particularly poor vehicle for review—does not conflict with any decision of this Court or any other court of appeals. Further review is not warranted.

1. As a threshold matter, petitioners lack standing to bring their challenge. "In every federal case, the party

bringing the suit must establish standing to prosecute the action." *Elk Grove Unified Sch. Dist.* v. *Newdow*, 542 U.S. 1, 11 (2004). In addition to a showing of "injury in fact," the plaintiff must establish causation and redressability. The plaintiff must show that there is "a causal connection between the injury and the conduct complained of," so that the plaintiff's injury is "fairly . . . trace[able] to the challenged action of the defendant, and not . . . th[e] result [of] the independent action of some third party not before the court." *Lujan* v. *Defenders of Wildlife*, 504 U.S. 555, 560 (1992) (quoting *Simon* v. *Eastern Ky. Welfare Rights Org.*, 426 U.S. 26, 41-42 (1976)). The plaintiff must also show that it is "'likely,' as opposed to merely 'speculative,' that the injury will be 'redressed by a favorable decision.'" *Id.* at 561 (also quoting *Simon*).

Petitioners in this case failed to establish either causation or redressability. As Judge Tatel explained, the relevant particularized injury asserted in the declarations submitted by petitioners was that of the Commonwealth of Massachusetts, which asserted that greenhouse gas emissions would lead to global warming, which would cause rising sea levels, which in turn "would lead both to permanent loss of coastal land and to more frequent and severe storm surge flooding events along the coast." Pet. App. A27 (internal quotation marks omitted). Thus, to establish causation and redressability, petitioners had to do more than show that global warming, generally, would cause the alleged injury. Rather, they had to show that the subject of their rulemaking petition—greenhouse gas emissions from new motor vehicles in the United States—would, at least to a material extent, cause them the alleged injury.[3] In addi-

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[3] Under Section 202(a)(1), EPA may regulate only new motor vehicles and cannot impose controls on existing vehicles. Therefore,

tion, they had to show that a successful resolution of this case—a decision by EPA to impose emission standards on such new motor vehicles—would, to a material extent, redress that injury.

The declarations that petitioners submitted are insufficient to make those showings. Judge Tatel cited, as the best evidence of causation, a declaration asserting that global warming, chiefly triggered by anthropogenic greenhouse gas emissions, was increasing the sea level, with "the U.S. transportation sector (mainly automobiles) . . . responsible for about 7% of global fossil fuel emissions." Pet. App. A28 (citation omitted). Similarly, with respect to redressability, Judge Tatel cited a declaration asserting that "[a]chievable reductions in emissions of [carbon dioxide] and other [greenhouse gases] from U.S. motor vehicles would . . . delay and moderate many of the adverse impacts of global warming." *Id.* at A28-A29.

In light of the speculative nature of petitioner's theories, petitioners failed to establish that the injuries they allege from global warming are traceable to greenhouse gas emissions from new vehicles in the United States—rather than to greenhouse gas emissions from other sources in the United States, greenhouse gas emissions from vehicles or other sources elsewhere in the world, or entirely different factors—and that a decision to require regulation of emissions of greenhouse gases from new motor vehicles in the United States would redress their injuries. Petitioners allege only an indirect injury from vehicular emissions of greenhouse gases in the United States; they assert that such emissions will cause global warming, which in turn will cause sea levels to rise, which in turn will, in the case of

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petitioners have the burden of showing that regulation of new motor vehicles would provide redress for their alleged injury.

Massachusetts, damage its coastal property. As this Court has explained, "indirectness of injury, while not necessarily fatal to standing, may make it substantially more difficult * * * to establish that * * * the asserted injury was the consequence of the defendants' actions, or that prospective relief will remove the harm." *Simon*, 426 U.S. at 44-45 (internal quotation marks and citation omitted). In this case, as in *Simon*, "[s]peculative inferences are necessary to connect [petitioners'] injury to the challenged actions," *id.* at 45, and a "federal court, properly cognizant of the Art. III limitation upon its jurisdiction, must require more than [petitioners] have shown before proceeding to the merits." *Id.* at 46.

Indeed, petitioners' standing allegations rest on speculation at two levels. First, petitioners' standing argument depends on their claim that greenhouse gases emitted by new motor vehicles in the United States *alone* are sufficient to cause, at least in material part, the injuries that they allege will occur from global warming. Petitioners' declarations, however, address the alleged causation of global warming by greenhouse gases emitted from many different sources and from many different countries throughout the world. Their declarations do not establish that the subject matter of this case—emissions of greenhouse gases by new motor vehicles in the United States—causes or meaningfully contributes to their injuries.

Second, petitioners' standing argument depends on the proposition that EPA, if it adopted standards to limit emissions of greenhouse gases from new vehicles in the United States, could limit such emissions sufficiently to have an appreciable effect on global warming and, ultimately, on the degree of injury petitioners allegedly would suffer. Petitioners' declarations do not establish that a mere reduction in greenhouse gas emissions from new vehicles in the United

States would be sufficient to eliminate or meaningfully reduce the harm that they allege they will suffer from global warming. Indeed, EPA concluded that it would not "be either *effective* or appropriate for EPA to establish [greenhouse gas] standards for motor vehicles at this time." Pet. App. A82 (emphasis added).

In concluding that petitioners had shown causation and redressability, Judge Tatel relied principally on the statement in one declaration that "[a]chievable reductions in emissions of [carbon dioxide] and other greenhouse gases from U.S. motor vehicles would . . . delay and moderate many of the adverse impacts of global warming." Pet. App. A28-A29. That conclusory statement was taken from the declarant's summary of his findings, but the balance of the declaration did not address the question of whether, or the extent to which, reductions in greenhouse gas emissions *from new motor vehicles in this country alone* would "delay and moderate" the injuries alleged by petitioners. To the contrary, the declarant's conclusion that EPA regulation of automobile emissions would redress the alleged harm appears to be based on his claim that, if EPA acts, then foreign governments will eventually take similar steps. See Pet. C.A. Standing App. 220 (para. 32) ("If the U.S. takes steps to reduce motor vehicle emissions, other countries are very likely to take similar actions regarding their own motor vehicles using technology developed in response to the U.S. program."). According to the declarant, "[w]ith such efforts, accompanied by progress in limiting other emissions, it would be much more likely that the extent of climate change could ultimately be limited to levels that would avoid the most serious impacts of global warming." *Ibid.*[4]

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[4] Judge Tatel also relied on another declaration that made essentially the same point. See Pet. App. A29 (quoting statement in declaration

In short, petitioners' theory is that redress of their alleged injuries would result only from a chain of causation beginning with EPA regulation, which would cause advances in technology, which would cause decisions by other countries similarly to limit vehicle emissions, which would cause an effect on global climate, and which would finally result in a redress of petitioners' alleged injuries. Such a chain of causation, involving coordinated actions by entirely independent third-party governments around the world, is far too speculative to support standing. See *ASARCO Inc.* v. *Kadish*, 490 U.S. 605, 615 (1989) (Opinion of Kennedy, J.) (plaintiffs could not establish standing because whether their "claims of economic injury would be redressed by a favorable decision in this case depends on the unfettered choices made by independent actors * * * whose exercise of broad and legitimate discretion the courts cannot presume either to control or to predict"); *Allen* v. *Wright*, 468 U.S. 737, 759 (1984) ("chain of causation" is "far too weak for the chain as a whole to sustain * * * standing," where it depended on actions of "numerous third parties" making "independent decisions").

In short, petitioners have failed to make the necessary showings of causation and redressability. The problem is not that there is a factual dispute raised by the declarations submitted by petitioners. Rather, the problem is that petitioners have failed adequately to present proof of causation and redressability, and therefore that they lack standing to bring this challenge.

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that "establishing emissions standards for pollutants that contribute to global warming would lead to investment in developing improved technologies to reduce those emissions from motor vehicles, and * * * successful technologies would gradually be mandated by other countries around the world").

2. On the merits, the court of appeals correctly upheld EPA's decision. Section 202(a)(1) of the Act, 42 U.S.C. 7521(a)(1), expressly conditions the establishment of motor vehicle emissions standards on a discretionary exercise of the Agency's "judgment" as to whether air pollution related to motor vehicle emissions "may reasonably be anticipated" to endanger public health or welfare. Because that provision expressly invokes the Administrator's "judgment," it provides EPA with substantial discretion in deciding whether and when an endangerment finding can or should be made in the first instance. Here, the Agency identified a variety of sensible and appropriate reasons—including the complex and highly uncertain nature of the scientific record and the Agency's desire to have the benefit of ongoing research—for its conclusion that even if it had authority to regulate greenhouse gas emissions from motor vehicles, an endangerment finding would be inappropriate at this time. That conclusion reflects a reasonable exercise of the Agency's discretion.

a. As the full D.C. Circuit explained 30 years ago in *Ethyl Corp.* v. *EPA*, 541 F.2d 1, 20 n.37 (en banc), cert. denied, 426 U.S. 941 (1976), the "express provision for administrative discretion via the 'judgment' phrase [in CAA section 202(a)(1)] is necessary" precisely because that section requires EPA to initiate regulation once it makes a determination of "endangerment" to health or welfare. 541 F.2d at 20 n.37. Numerous other decisions stress EPA's discretion in deciding whether to make similar types of threshold regulatory determinations under similarly structured provisions of the CAA. See, *e.g.*, *Her Majesty the Queen in Right of Ont.* v. *EPA*, 912 F.2d 1525, 1533-1535 (D.C. Cir. 1990) (EPA has discretion whether and when to make the threshold finding as to whether or not there is "reason to believe" that emissions from sources in the United States

are causing a health or welfare endangerment in another country under Section 115(a) of the Act, 42 U.S.C. 7415(a)).[5] In particular, courts have recognized that EPA may properly defer making an endangerment determination while it waits for additional scientific and technical studies to be completed. *Her Majesty the Queen*, 912 F.2d at 1533-1534.

b. More generally, courts have long recognized that agencies are entitled to particular deference in deciding whether to grant rulemaking petitions.[6] As the D.C. Circuit

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[5] See *New York Pub. Interest Research Group* v. *Whitman*, 321 F.3d 316, 330-331 (2d Cir. 2003) (EPA has discretion whether or not to make the threshold "determination" regarding deficiencies in state operating permit programs under Section 502(i) of the Act, 42 U.S.C. 7661a(i)); *NRDC* v. *Thomas*, 885 F.2d 1067, 1073-1075 (2d Cir. 1989) (EPA has discretion in exercising its "judgment" as to whether emissions of hazardous air pollutants "may reasonably be anticipated" to result in certain types of illnesses under then-existing version of CAA Section 112(a)(1), 42 U.S.C. 7412(a)(1) (1988)); *Environmental Def. Fund* v. *Thomas*, 870 F.2d 892, 898-899 (2d Cir.) (EPA has discretion to make the threshold "judgment" as to when it is "appropriate" to issue revised NAAQS under Section 109 of the Act, 42 U.S.C. 7409), cert. denied, 493 U.S. 991 (1989).

[6] See, *e.g.*, *Midwest Indep. Transmission Sys. Operator, Inc.* v. *FERC*, 388 F.3d 903, 910-911 (D.C. Cir. 2004) ("[W]e will overturn an agency's decision not to initiate a rulemaking only for compelling cause, such as plain error of law or a fundamental change in the factual premises previously considered by the agency.") (internal quotation marks and citation omitted); *National Mining Ass'n* v. *DOI*, 70 F.3d 1345, 1352 (D.C. Cir. 1995) ("[A]n agency's refusal to initiate a rulemaking is evaluated with deference so broad as to make the process akin to non-reviewability.") (internal quotation marks and citation omitted); *Timpinaro* v. *SEC*, 2 F.3d 453, 461 (D.C. Cir. 1993) (such challenges will be granted "only in the rarest and most compelling of circumstances") (internal quotation marks and citations omitted); *General Motors Corp.* v. *National Highway Traffic Safety Admin.*, 898 F.2d 165, 169 (D.C. Cir. 1990) (judicial review is "especially narrow" in cases that involve challenges to the denial of a petition for rulemaking); *American Horse*

has stated, "[i]t is only in the rarest and most compelling of circumstances that this court has acted to overturn an agency judgment not to institute a rulemaking." *WWHT, Inc.* v. *FCC*, 656 F.2d 807, 818 (1981). Agencies have limited resources and therefore must have the latitude to set priorities among possible initiatives and to decide how any particular policy objective may best be pursued. See *id.* at 817 (recognizing that "[a]n agency's discretionary decision *not* to regulate a given activity is inevitably based, in large measure, on factors not inherently susceptible to judicial resolution—*e.g.*, internal management considerations as to budget and personnel; evaluations of its own competence; weighing of competing policies within a broad statutory framework.") (quoting *NRDC* v. *SEC*, 606 F.2d 1031, 1046 (D.C. Cir. 1971)). Accordingly, the D.C. Circuit has traditionally described its role in reviewing denials of rulemaking petitions as "limited to ensuring that the agency has adequately explained the facts and policy concerns it relied on, and that the facts have some basis in the record." *National Ass'n of Regulatory Util. Comm'rs* v. *DOE*, 851 F.2d 1424, 1430 (D.C. Cir. 1988) (internal quotation marks and citation omitted).

c. Against that background, the facts and policy concerns articulated by EPA were sufficient to sustain its decision that a finding of endangerment regarding greenhouse gas emissions from motor vehicles was not appropriate at this time. As Judge Randolph explained, EPA properly relied on an authoritative analysis by the NRC, an entity of the National Academy of Sciences, and that report supported the Agency's view that any decision whether or not to regulate in this area would be better made after further

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Prot. Ass'n v. *Lyng*, 812 F.2d 1, 4-6 (D.C. Cir. 1987) (denials of rulemaking petitions are entitled to the "high end" of deference).

research was conducted into critical areas of current scientific uncertainty. See Pet. App. A11-A13, A83-A85. In addition, EPA's decision properly took into account other legal and policy implications of any decision to initiate regulatory action at this time.[7]

d. Petitioners incorrectly assert (Pet. 14-15) that it was impermissible for EPA to conclude that an "endangerment" finding was inappropriate at the present time based on the existing scientific uncertainty and the other factors mentioned by EPA. In essence, petitioners argue that in acting on a petition to initiate rulemaking under Section 202(a)(1), EPA must make an express finding that endangerment is either present or absent, and may deny such a petition only if it makes the latter finding in definitive fashion. There is no precedential or statutory support for petitioners' position. As discussed above, cases such as *Ethyl* and *Her Majesty the Queen* make clear that EPA has significant discretion in making the judgments related to an endangerment finding under CAA Section 202(a)(1) and similar provisions. That discretion is particularly pronounced in cases such as this, which to a significant degree involve the more preliminary question of *when* it is appropriate to make an endangerment finding. See, *e.g.*, *WWHT, Inc.*, 656 F.2d at 817.[8]

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[7] See Pet. App. A13-A14 (discussing possible effects on United States foreign policy, the Agency's concern about initiating a "piecemeal" regulatory approach to these issues, and the concern that any effort by EPA to limit carbon dioxide emissions through the imposition of more stringent fuel economy standards would conflict with the Department of Transportation's regulation of fuel economy under EPCA).

[8] Neither *Whitman* v. *American Trucking Ass'ns*, 531 U.S. 457 (2001), nor *Union Electric Co.* v. *EPA*, 427 U.S. 246 (1976), supports petitioners' argument. See Pet. 8, 14. Those cases involved the extent to which costs can be considered by EPA in setting a NAAQS or approving a state implementation plan, respectively. This case, by contrast, involves the distinct threshold question of what factors EPA may

Moreover, such an approach would, in effect, deprive EPA of its statutory authority to exercise its "judgment" on the threshold determination of when it is appropriate to make an endangerment finding. In so doing, it would also effectively cede control over EPA's limited resources to anyone who submits a petition for rulemaking, and it would illogically force EPA to make regulatory decisions even when it reasonably viewed existing data as unreliable, uncertain, or inconclusive.

e. Petitioners are mistaken in suggesting (Pet. 14-16) that the CAA itself precludes EPA from considering the state of scientific uncertainty and other relevant factors in making the threshold determination of whether it is now appropriate to make an endangerment finding. Section 202(a)(1) simply states that any regulation in this area is conditioned on an exercise of EPA's "judgment," and it does not in any way cabin the Agency's discretion—procedural or substantive—to decide how to make that judgment most effectively.[9] In the absence of any such statutory constraints, EPA has discretion to make the threshold determination of whether the scientific record is sufficiently well developed to begin the regulatory process. See *Her Majesty the Queen*, 912 F.2d at 1533-1535 (upholding EPA's

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permissibly take into account in deciding when and whether to make an "endangerment" determination, not merely the factors to be consulted once EPA has decided to make such a determination.

[9] Nor does Section 202(a)(1) expressly address rulemaking petitions at all. By contrast, in other parts of the Act, where Congress has intended to prescribe aspects of the process EPA must follow in responding to such petitions, it has done so expressly. See, *e.g.*, 42 U.S.C. 7412(b)(3) and (4) (specifying timing and other requirements for consideration of petitions to modify the CAA list of hazardous pollutants and agency responses thereto); 42 U.S.C. 7661d(b)(2) (specifying the process for presentation and consideration of petitions to EPA to object to state CAA operating permits).

discretion to await the development of further information on potential remedial measures before making an endangerment finding under Section 115 of the CAA, 42 U.S.C. 7415, dealing with international air pollution); *Professional Drivers Council* v. *Bureau of Motor Carrier Safety*, 706 F.2d 1216, 1222 & n.19 (D.C. Cir. 1983) (agencies may permissibly defer decision whether or not to regulate for a variety of reasons within their "special expertise," including whether "the scientific state of the art [is] such that sufficient data are not yet available on which to premise adequate regulations") (emphasis omitted) (quoting *NRDC* v. *SEC*, 606 F.2d at 1046).[10] EPA's decision is thus consistent with the statute, applicable precedent, and with the more general rule that courts should refrain from imposing rulemaking requirements on agencies that go beyond those imposed by Congress. See *Vermont Yankee Nuclear Power Corp.* v. *NRDC*, 435 U.S. 519 (1978).

f. Petitioners correctly point out (Pet. 15) that the D.C. Circuit's decision in *Ethyl* endorsed the notion that EPA's broad discretion under Section 202 of the Act could support a judgment to regulate, even if the record before the Agency evidences some scientific uncertainty, when the Agency deems such a course to be appropriate. See *Ethyl*, 541 F.2d at 27-28. Petitioners err, however, in arguing that because the Agency *may* permissibly proceed with regulation even in the face of some uncertainty, it *must* do so even when it has the type of legitimate policy concerns present

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[10] See *Sierra Club* v. *Thomas*, 828 F.2d 783, 798 (D.C. Cir. 1987) (denying an "unreasonable delay" claim and explaining that because EPA decisions about whether to regulate under the CAA "often involve[] complex scientific, technological, and policy questions," the Agency "must be afforded the amount of time necessary to analyze such questions so that it can reach considered results in a final rulemaking that will not be arbitrary and capricious or an abuse of discretion").

here. Instead, EPA has the discretion to make reasonable determinations in the first instance whether or not to proceed in the face of scientific uncertainty. The Agency's conclusion that an endangerment determination is not appropriate at this time was more than amply explained and supported by the record, and was properly upheld by the court of appeals.

3. Petitioners also argue that review is warranted to consider whether EPA correctly determined that it did not have authority under Section 202(a) of the Clean Air Act to regulate greenhouse gas emissions from vehicles for the purpose of addressing concerns about global climate change.

a. That issue was not decided by the court of appeals, see Pet. App. A10 n.1, and it has never been addressed by any other court of appeals. This Court rarely addresses a legal question without the benefit of any prior decisions by the lower courts. See, *e.g.*, *Yee* v. *City of Escondido*, 503 U.S. 519, 538 (1992); *Lytle* v. *Household Mfg., Inc.*, 494 U.S. 545, 552 n.3 (1990). No basis supports taking such an exceptional course here, because the court of appeals correctly denied the petitions for review on the grounds discussed above. Moreover, while regulation of greenhouse gas emissions from new motor vehicles would present the Agency with issues of quite extraordinary magnitude and would conflict with a key component of the CAA regulatory system, EPA's determination that it had no authority under the Act to institute such regulation is limited to the specific context of greenhouse gases and is unlikely to have a significant effect in other contexts.

b. In any event, EPA's conclusion that it did not have regulatory authority to regulate vehicular greenhouse gas emissions to address the problem of global warming reflects a reasonable interpretation of the CAA and is consis-

tent with applicable precedent. As this Court has frequently instructed, statutes must be read as a whole "since the meaning of statutory language, plain or not, depends on context." *King* v. *St. Vincent's Hosp.*, 502 U.S. 215, 221 (1991); see, *e.g.*, *FDA* v. *Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 132-133 (2000); *Gustafson* v. *Alloyd Co.*, 513 U.S. 561, 569, 575 (1995); *McCarthy* v. *Bronson*, 500 U.S. 136, 139 (1991). Here, as was true of tobacco regulation in *Brown & Williamson*, there are persuasive reasons to conclude that the CAA, when read as a whole, does not confer authority on EPA to regulate emissions of greenhouse gases to address concerns about global climate change.

Nothing in the CAA indicates Congress's intent to regulate greenhouse gases for purposes of addressing global warming, and all indications that are present suggest that Congress intended a non-regulatory approach to those issues at this time. See Pet. App. A70-A71, A74-A75; see also *id.* at A71-A72 (noting Congress's distinctive approach, not merely making use of EPA's ordinary regulatory provisions, to address the global atmospheric issue of stratospheric ozone depletion). The NAAQS system—the CAA's primary tool for regulating pervasive air pollutants—is based on state-by-state analyses of compliance with national standards, and the Act imposes distinct regulatory regimes on attainment and nonattainment areas. See CAA Sections 110, 172 *et seq.*, 42 U.S.C. 7410, 7502 *et seq.* That system would serve no logical purpose in regulating carbon dioxide and other greenhouse gases, concentrations of which are not generally subject to substantial local or state-by-state variation but are instead global in nature. Pet. App. A71-A73. If petitioners were correct, "any [carbon dioxide] standard that might be established would in effect be a worldwide ambient air quality standard, not a national

standard—the entire world would either be in compliance or out of compliance," *id.* at A73, thus rendering the important statutory distinction between attainment and non-attainment areas meaningless. *Id.* at A73-A74. Effectively increasing fuel economy standards would be the only way EPA could attempt to limit vehicle emissions of carbon dioxide, but such EPA regulation would conflict with the separate statutory scheme that Congress carefully developed and expressly crafted to address fuel economy standards, under which a division of the Department of Transportation is responsible for such standards. See *id.* at A79-A80.[11]

In short, EPA reasonably concluded that the CAA does not confer authority on EPA to regulate greenhouse gas emissions to address global climate change. See Pet. App. A78. Section 202(a)(1) authorizes EPA only to regulate "any air pollutant," and "air pollutant" is in turn defined as "any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive * * * substance or matter which is emitted into or otherwise enters the ambient air." 42 U.S.C. 7602(g). Under that definition, "a substance does not meet the CAA definition of 'air pollutant' simply because it is a 'physical, chemical, biological, radioactive * * * substance or matter which is emitted into or otherwise enters the ambient air.' It must also be an 'air pollution agent'" in order to be regulated under Section 202(a)(1). Pet. App. A79 n.3. For the reasons discussed above, EPA reasonably concluded that "the term 'air pollution' as used in the regulatory provisions [of the CAA] cannot be interpreted to encompass global climate change." *Id.* at A78. Therefore, carbon dioxide and

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[11] As the court of appeals noted, the rulemaking petition made "no suggestion" as to how emissions of the three greenhouse gases other than carbon dioxide that were the subject of the rulemaking petition might be reduced from motor vehicles. See Pet. App. A14.

other greenhouse gases "are not 'agents' of air pollution and do not satisfy the CAA Section 302(g) definition of 'air pollutant' for purposes of" the CAA's regulatory provisions, including Section 202(a)(1). *Ibid.*[12]

4. Finally, petitioners err in contending (Pet. 22-26) that further review is warranted because of the asserted urgency of the environmental issues involved. EPA has never contested that global climate change is an important issue worthy of focused attention, both in the United States and abroad. In fact, the Agency detailed in its decision in this case a variety of efforts that the federal government is currently undertaking to "effectively and efficiently address the climate change issue over the long term." Pet. App. A82; see *id.* at A82-A93. Those efforts, and others that could follow as the numerous scientific and factual questions involved in the issue of global warming are clarified further, are better tailored to address this quintessentially multinational issue than is the ill-suited regulatory machinery of the CAA, which could attack only a small and isolated part of it.

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[12] Petitioners and the dissenting judge below thus err in contending that EPA has disregarded the Act's "plain" text. Pet. App. A33; see Pet. 18. They erroneously assume that the definition of "air pollutant" necessarily encompasses *any* "physical, chemical, biological, radioactive * * * substance or matter which is emitted into or otherwise enters the ambient air," see Pet. App. A32 (citing 42 U.S.C. 7602(g), but EPA has rejected that view, and has instead authoritatively construed the definitional provision's reference to "air pollution agent" to have independent meaning and effect. See *id.* at A78-A79 & n.3. That reasonable interpretation of the ambiguous statutory definition is entitled to deference under *Chevron U.S.A. Inc.* v. *Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984).

CONCLUSION

The petition for a writ of certiorari should be denied.

Respectfully submitted.

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MAY 2006

(6)

No. 05-1120

IN THE

Supreme Court of the United States

COMMONWEALTH OF MASSACHUSETTS, ET AL.,
Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, ET AL.,
Respondents.

On Petition for Writ of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

BRIEF FOR RESPONDENT UTILITY AIR REGULATORY GROUP IN OPPOSITION

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RULE 29.6 STATEMENT

The Utility Air Regulatory Group ("UARG") is a not-for-profit association of individual electric generating companies and national trade associations that participate collectively in administrative proceedings under the Clean Air Act, and in litigation arising from those proceedings, that affect electric generators. UARG has no outstanding shares or debt securities in the hands of the public and has no parent company. No publicly held company has a 10% or greater ownership interest in UARG.

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STATEMENT OF THE CASE

This case involves review of the U.S. Environmental Protection Agency's ("EPA" or "Agency") 2003 denial of a petition for rulemaking asking the Agency to regulate greenhouse gas emissions from new motor vehicles under section 202(a)(1) of the Clean Air Act ("CAA" or "Act"), 42 U.S.C. § 7521(a)(1) (2000), to address global climate change. The Petitioners based their request on their argument that EPA had a "mandatory duty" under the Act to regulate those emissions. Control of Emissions from New Highway Vehicles and Engines, Notice of denial of petition for rulemaking, 68 Fed. Reg. 52922, 52923 (Sept. 8, 2003), A-59, A-60. After giving the public an opportunity to comment on the rulemaking petition and considering public comments, EPA denied the petition. *Id.* at 52922-33, A-59 to A-93. The Agency set forth three grounds for its denial of the petition.

First, based on the Act's language and legislative history, other statutes, congressional decisions, and statutory interpretation principles underlying *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000), EPA determined it lacked authority under the CAA to regulate greenhouse gas emissions for the purpose of addressing global climate change. *Id.* at 52925-29, A-68 to A-79. The Agency said that "[i]n light of Congress' attention to the issue of global climate change, and the absence of any direct or even indirect indication that Congress intended to authorize regulation under the CAA to address global climate change, it is unreasonable to conclude that the CAA provides the Agency with such authority." 68 Fed. Reg. at 52928, A-78.

Second, EPA determined that even if the CAA authorized it to regulate greenhouse gas emissions to

address global climate change, granting the rulemaking petition would impermissibly conflict with title V of the Energy Policy and Conservation Act ("EPCA"), 49 U.S.C. §§ 32901-32919, which authorizes the U.S. Department of Transportation to establish fuel economy standards for motor vehicles. 68 Fed. Reg. at 52929, A-79 to A-80. EPA found that "[a]t present, the only practical way to reduce tailpipe emissions of [carbon dioxide ("CO_2"), the most prevalent greenhouse gas] is to improve fuel economy." *Id.*, A-79. EPA concluded that "any EPA effort to set CO_2 tailpipe standards under the CAA would either abrogate EPCA's regime (if the standards were effectively more stringent than the applicable [fuel economy] standard) or be meaningless (if they were effectively less stringent)." *Id.*, A-80

Third, EPA determined that, assuming *arguendo* that the CAA did provide EPA with authority to regulate greenhouse gas emissions to address global climate change, section 202(a) of the CAA -- the provision at issue in the rulemaking petition -- gives EPA's Administrator discretion to determine "in his judgment" whether, based on the facts before the Agency, the emissions in question "may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7521(a)(1). EPA observed that the Administrator had never made a determination under the CAA that greenhouse gas emissions endanger public health or welfare and that the timing of any such endangerment determination is within the Administrator's discretion. 68 Fed. Reg. at 58929, A-80 to A-81. EPA thus determined that, contrary to Petitioners' argument, it had no mandatory duty to undertake rulemaking. Moreover, EPA determined that the scientific evidence before it in reviewing the petition, including the National Research Council's report, *Climate Change Science: An Analysis of Some*

Key Questions (2001) ("NRC Report"), was "extraordinarily complex and still evolving" and reflected "'considerable uncertainty in current understanding of how the climate system varies naturally and reacts to emissions of greenhouse gases.'" 68 Fed. Reg. at 52930, A-83 (quoting NRC Report). EPA also noted, for example, that, given the global nature of atmospheric concentrations of CO_2, it is "extremely difficult to evaluate" to what extent any "effects in the U.S. would be related to anthropogenic [CO_2] emissions in the U.S." *Id.* at 52927, A-73.

In light of the scientific uncertainty on these critical issues, EPA found no basis for making an endangerment determination and regulating motor vehicles' greenhouse gas emissions under section 202(a) of the CAA. *Id.* at 52931, A-86 (declining to regulate "[u]ntil more is understood about the causes, extent and significance of climate change"). EPA concluded that "establishing [greenhouse gas] emission standards for U.S. motor vehicles at this time would require EPA to make scientific and technical judgments without the benefit of the studies being developed to reduce uncertainties and advance technologies." *Id.*, A-85. Accordingly, EPA denied the rulemaking petition because it determined that, even if it had authority under the CAA to undertake rulemaking, it had neither an obligation nor a sound basis to do so.

Petitioners sought review of EPA's denial by the U.S. Court of Appeals for the District of Columbia Circuit. Without reaching the issue whether the CAA provides EPA with authority to regulate for global climate change purposes, *Massachusetts v. EPA*, 415 F.3d 50, 56 & n.1 (D.C. Cir. 2005), A-10 & n.1, a panel of the D.C. Circuit held, in an opinion by Judge Randolph, that assuming *arguendo* that EPA has such authority, the Agency properly exercised its discretion in denying the rulemaking petition. *Id.* at 58, A-15; *see*

also id. at 61, A-20 (Sentelle, J., concurring in the judgment). Judge Tatel dissented, believing that EPA had "misinterpreted the scope of its statutory authority" and had provided a legally inadequate explanation for the petition denial. *Id.* at 82, A-58 (Tatel, J., dissenting).

Some of the Petitioners filed a petition for rehearing and rehearing en banc. Both the panel and the full court denied that petition. A-94 to A-95; A-98.

ARGUMENT

I. THE LEGAL ISSUES PRESENTED ARE UNREMARKABLE AND DO NOT WARRANT REVIEW BY THIS COURT.

The legal issues presented by this case do not merit this Court's review. This case involves EPA's denial of a petition for rulemaking under the CAA, a denial that the Court of Appeals properly found was a reasonable exercise of EPA's very broad discretion and that it therefore declined to disturb based on well-established principles of administrative law. Although the factual matters considered by EPA revolve around interesting public policy questions concerning global climate change, the legal doctrines governing this case are well-settled and were properly applied below.

Petitioners believe that global climate change is "the most pressing environmental problem of our time," Pet. Br. at 22, and that "[t]here can be no reasonable debate about the exceptional importance of [that] problem," *id.* at 23. Plainly, global climate change presents our nation's elected decision makers with important questions of public policy. *This case*, however, does not present those public policy questions. As the dissenting opinion below noted, although this case arose "in the context of a highly controversial question -- global warming -- it actually

presents a quite traditional legal issue: has the Environmental Protection Agency complied with the Clean Air Act?" *Massachusetts*, 415 F.3d at 82, A-58 (Tatel, J., dissenting).

For the reasons discussed below, the issues presented by this case and the Court of Appeals' resolution of those issues do not warrant review by this Court.

A. The Court of Appeals' Decision Is Fully Consistent with Established Principles of Administrative Law Governing Review of Denials of Rulemaking Petitions.

As Petitioners acknowledge, the D.C. Circuit is "the premier intermediate court" on administrative law matters. Pet. at 4. That court's case law consistently reflects the long-established administrative law principle that a federal agency's decision -- based on the facts and given the circumstances before it -- to decline a request to institute rulemaking proceedings is given a high degree of deference. Such a decision should be overturned "only in the rarest and most compelling of circumstances." *WWHT, Inc. v. FCC*, 656 F.2d 807, 818 (D.C. Cir. 1981); *see also Timpinaro v. SEC*, 2 F.3d 453, 461 (D.C. Cir. 1993) (same); *American Horse Protection Ass'n v. Lyng*, 812 F.2d 1, 4-6 (D.C. Cir. 1987) (denials of rulemaking petitions entitled to "high end" of range of deference). Indeed, "an agency's refusal to initiate a rulemaking is evaluated with deference so broad as to make the process akin to non-reviewability." *Cellnet Communications, Inc. v. FCC*, 965 F.2d 1106, 1111 (D.C. Cir. 1992). In rejecting challenges to EPA's denial of the rulemaking petition here, the D.C. Circuit applied settled administrative law precedents.

In *NRDC v. SEC*, 606 F.2d 1031 (D.C. Cir. 1979),[1] the D.C. Circuit held that in cases such as the instant case, where an agency declines to grant a request to regulate, the scope of judicial review is -- and must be -- extremely limited for several reasons:

> An agency's discretionary decision *not* to regulate a given activity is inevitably based, in large measure, on factors not inherently susceptible to judicial resolution -- *e.g.*, internal management considerations as to budget and personnel; evaluations of its own competence; weighing of competing policies within a broad statutory framework. Further, even if an agency considers a particular problem worthy of regulation, it may determine for reasons lying within its special expertise that the time for action has not yet arrived. The area may be one of such rapid technological development that regulations would be outdated by the time they could become effective, or the scientific state of the art may be such that sufficient data are not yet available on which to premise adequate regulations. The circumstances in the regulated industry may be evolving in a way that could vitiate the need for regulation, or the agency may still be developing the expertise necessary for effective regulation.

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[1] *See WWHT*, 656 F.2d at 816 (identifying *NRDC v. SEC* as the D.C. Circuit's "most comprehensive statement . . . as to the availability and scope of review of an agency's decision to deny a petition for rulemaking").

Id. at 1046 (citations omitted) (emphasis in original); *see also WWHT*, 656 F.2d at 817 (quoting *NRDC*, 606 F.2d at 1046).

An agency's denial of a petition for rulemaking must be upheld "if it violates no law, is blessed with an articulated justification that makes a 'rational connection between the facts found and the choice made,' and follows upon a 'hard look' by the agency at the relevant issues." *Action for Children's Television v. FCC*, 564 F.2d 458, 479 (D.C. Cir. 1977). Because "[t]he agency's determination is essentially a legislative one, . . . the reviewing court should do no more than assure itself that the agency acted 'in a manner calculated to negate the dangers of arbitrariness and irrationality.'" *WWHT*, 656 F.2d at 817 (quoting *Action for Children's Television*, 564 F.2d at 472 n.24).

As the D.C. Circuit noted, "there are very few cases in which courts have forced agencies to institute rulemaking proceedings on a particular issue after it has declined to do so." *Id.* at 818. On rare occasions, courts do remand a denial of a rulemaking petition with instructions to provide a reasoned explanation of the denial. For example, in *American Horse Protection*, the Secretary of Agriculture denied a petition seeking rulemaking to reconsider regulations on the practice of "soring" horses in light of new evidence regarding the practice. 812 F.2d at 1-3. The support for the Secretary's denial of the petition consisted of two conclusory sentences and limited statistical information, *id.* at 5 -- "insufficient," the court held, "to assure a reviewing court that the agency's refusal to act was the product of reasoned decisionmaking," *id.* at 6.

In sharp contrast, EPA's denial of the rulemaking petition here was reasoned. The record before EPA and the D.C. Circuit enabled that court to "assure itself that the agency considered the relevant factors, that it explained the 'facts and policy concerns' relied on, and

that the facts have some basis in the record." *Id.* at 5. EPA provided a full explanation of its reasons for denying the petition in twelve pages of the *Federal Register*. 68 Fed. Reg. at 52922-33, A-59 to A-93; *cf.* 5 U.S.C. § 555(e) (2000) (Administrative Procedure Act requirement that an agency, in denying a petition for rulemaking, give "a brief statement of the grounds for denial") (quoted in *American Horse Protection*, 812 F.2d at 4). One of the principal grounds EPA gave for its denial was the continued existence of significant scientific uncertainty reflected in the record before it. *Id.* at 52930, A-82 to A-85; *see also NRDC*, 606 F.2d 1046 ("[E]ven if an agency considers a particular problem worthy of regulation, it may determine for reasons lying within its special expertise that the time for action has not yet arrived. . . . [T]he scientific state of the art may be such that sufficient data are not yet available on which to premise adequate regulations.") (citations omitted). EPA also discussed other policy concerns that would be raised by granting the petition, 68 Fed. Reg. at 52929-31, A-82 to A-87, and steps the President was taking to address global climate change issues, *id.* at 52931-33, A-87 to A-92.

Thus, nothing in the record before EPA or the court below presented those "rarest and most compelling of circumstances" necessary to overturn an agency denial of a rulemaking petition. *WWHT*, 656 F.2d at 818. Indeed, Petitioners do not show in their petition, and no basis exists for concluding, that EPA's decision was not "reasoned," that EPA failed to "explain[] the 'facts and policy concerns' [it] relied on," or that the facts lack "some basis in the record." *American Horse Protection*, 812 F.2d at 5 (citations omitted). In sum, applying familiar and settled principles of administrative law, the D.C. Circuit properly declined to overturn EPA's decision to deny the request for rulemaking.

B. The Court of Appeals' Decision Is Fully Consistent with the Clean Air Act and Case Law Construing That Act.

The D.C. Circuit's decision is also fully consistent with the plain language of the CAA and with case law construing the Act. That court did not need to -- and expressly did not -- address the merits of EPA's first and second bases for denying the rulemaking petition (namely, that it lacked authority under the Act to regulate greenhouse gas emissions to address global climate change and that any regulation of such emissions from new motor vehicles would conflict impermissibly with EPCA). *Massachusetts*, 415 F.3d at 56 & n.1, A-10 & n.1 The Court of Appeals did not need to address those two reasons because, as the court found, the CAA's plain language supports the third reason EPA gave for denying the rulemaking petition: that section 202 of the Act provides EPA with discretion in making the expert "judgment" whether motor vehicle emissions "may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7521(a)(1). Given the facts in the record before the Agency when it made its decision on the petition, nothing compelled EPA to exercise its judgment by determining that the statutory endangerment criterion was satisfied.

The D.C. Circuit properly found no basis to disturb EPA's denial of the petition because the court owed deference to the Agency's expert conclusion that a sound basis for making an endangerment determination did not exist in light of substantial scientific uncertainty in the record. *Massachusetts*, 415 F.3d at 57, A-11 to A-13; *Ethyl Corp. v. EPA*, 541 F.2d 1, 20 n.37 (D.C. Cir. 1976) (en banc) (Section 202(a)(1)'s "judgment" language is an "express provision for administrative discretion."). As the court

noted, an endangerment determination under the Act "'is necessarily a question of policy that is to be based on an assessment of risks and that should not be bound by either the procedural or the substantive rigor proper for questions of fact.'" *Massachusetts*, 415 F.3d at 58, A-15 (quoting *Ethyl*, 541 F.2d at 24). Petitioners correctly observe that the mere existence of some degree of scientific uncertainty need not paralyze regulators under all circumstances; whatever authority EPA might have to regulate is not necessarily eliminated by the presence of any degree of uncertainty in the science. Pet. Br. at 15 (citing *Ethyl*, 541 F.2d at 25). That does not mean, however, that EPA *must* exercise any such authority even in the presence of substantial scientific uncertainty.

The D.C. Circuit's en banc decision in *Ethyl* supports EPA's denial of the rulemaking petition at issue here, as the court pointed out below. *Massachusetts*, 415 F.3d at 57, A-13 to A-14. *Ethyl* did not involve the denial of a petition for rulemaking in the face of scientific uncertainty -- the kind of agency decision that, as discussed above, is subject to an extraordinarily high degree of judicial deference. Instead, *Ethyl* involved an industry challenge to an EPA decision *to* regulate where there was "less than certainty" about endangerment. *Ethyl*, 541 F.2d at 25. In rejecting that challenge, the D.C. Circuit held that although "certainty is the scientific ideal[,] to the extent that even science can be certain of its truth[,] . . . [a]waiting certainty will often allow for only reactive, not preventive, regulation." *Id.* Thus, as *Ethyl* makes clear, an agency is not always obligated to wait for complete scientific certainty before undertaking regulation. *Ethyl* plainly does not stand for the converse proposition Petitioners urge here: that EPA has a duty to grant a petition to regulate despite

substantial scientific uncertainty that the Agency is working to resolve.

In fact, Petitioners concede, as they must, that under the statute, EPA properly considers "scientific uncertainty" in exercising judgment to determine whether the endangerment criterion is met in light of the record before it. Pet. Br. at 14-15. Despite Judge Tatel's view in dissent that he "doubt[s] EPA could credibly conclude that it needs more research to determine whether [greenhouse gas]-caused global warming 'may reasonably be anticipated to endanger' welfare," *Massachusetts*, 415 F.3d at 77, A-50 to A-51 (Tatel, J., dissenting), the passage from the NRC Report that Judge Tatel quotes at length -- the same report on which EPA relied -- is replete with statements reflecting considerable scientific uncertainty regarding global climate change and its possible effects on both public welfare and public health. For example:

- "'Changes in storm frequency and intensity are one of the *more uncertain elements* of future climate change prediction.'" *Id.* at 79, A-53 (Tatel, J., dissenting) (quoting NRC Report) (emphasis added).
- "'[T]he response of insects and plant diseases to warming is *poorly understood.* On the regional scale and in the longer term, there is *much more uncertainty.*'" *Id.* at 78, A-52 (quoting NRC Report) (emphasis added).
- "'Health outcomes in response to climate change are the *subject of intense debate.* . . . Climate change is just one of the factors that influence the frequency and transmission of infectious disease, and hence the assessments view such changes as *highly uncertain.*'" *Id.*, A-52 (quoting NRC Report) (emphasis added).

- "'The understanding of the relationships between weather/climate and human health is *in its infancy* and therefore the health consequences of climate change *are poorly understood.* The costs, benefits, and availability of resources for adaptation *are also uncertain.*'" *Id.* at 79, A-53 (quoting NRC Report) (emphasis added).

The passage from the NRC Report that Judge Tatel quotes also contains several other statements that illustrate the existence of substantial uncertainty about whether any basis existed for EPA to make an endangerment judgment. For example:

- "'A key conclusion from the National Assessment [of Climate Change Impacts] is that *U.S. society is likely to be able to adapt to most of the climate change impacts on human systems*, but these adaptations may come with substantial cost.'" *Id.* at 78, A-51 (Tatel, J., dissenting) (quoting NRC Report) (emphasis added).
- "'In the near term, agriculture and forestry are *likely to benefit* from CO_2 fertilization effects and the increased water efficiency of many plants at higher atmospheric CO_2 concentrations.'" *Id.*, A-51 (quoting NRC Report) (emphasis added).
- "'[T]he combination of the geographic and climatic breadth of the United States, possibly augmented by advances in genetics, increases the nation's robustness to climate change.'" *Id.*, A-52 (quoting NRC Report).
- "'[M]uch of the United States *appears to be protected* against many different adverse health outcomes related to climate change by a strong public health system, relatively high levels of public awareness, and a high standard of living.'"

Id. at 79, A-53 (quoting NRC Report) (emphasis added).

- "'At a national level, the direct economic impacts [of global climate change] are *likely to be modest* [while] on a regional basis the level and extent of *both beneficial and harmful impacts* will grow.'" *Id.*, A-54 (quoting NRC Report) (emphasis added).

In short, given the evidence of scientific uncertainty described in the NRC Report before the Agency, EPA was well justified in denying the petition for rulemaking.

EPA noted, in addition to uncertainty in the scientific evidence, other policy reasons that provided further support for its decision to deny the rulemaking petition. 68 Fed. Reg. 52929-33, A-82 to A-92. Petitioners claim that EPA may not consider policy reasons under section 202 of the CAA at all and that EPA's consideration of these reasons in this case impermissibly tainted the Agency's decision. Pet. Br. at 14-15. Again, applying settled principles, the D.C. Circuit properly rejected Petitioners' objection, holding that "Congress does not require the Administrator to exercise his discretion solely on the basis of his assessment of scientific evidence." *Massachusetts*, 415 F.3d at 58, A-13 (citing *Ethyl*, 541 F.2d at 20); *see id.*, A-15 ("as we have held, a reviewing court 'will uphold agency conclusions based on policy judgments' 'when an agency must resolve issues "on the frontiers of scientific knowledge"'") (quoting *Environmental Defense Fund v. EPA*, 598 F.2d 62, 82 (D.C. Cir. 1978)); *Ethyl*, 541 F.2d at 26 ("the statute accords the regulator flexibility to assess risks and make essentially legislative policy judgments"); *WWHT*, 656 F.2d at 818 ("The agency's determination is essentially a legislative one, and the reviewing court should do no more than assure itself that the agency acted 'in a

manner calculated to negate the dangers of arbitrariness and irrationality.'") (quoting *Action for Children's Television*, 564 F.2d at 472 n.24); *NRDC*, 606 F.2d at 1046 ("An agency's discretionary decision *not* to regulate a given activity is inevitably based, in large measure, on factors not inherently susceptible to judicial resolution. . . .") (emphasis in original).

In sum, the legal issues in this case do not remotely present an important federal question that merits this Court's review. EPA's denial of the rulemaking petition, and the Court of Appeals' decision declining to overturn that denial, are supported by well-settled principles of administrative law. Moreover, the CAA's plain language and case law interpreting that language support EPA's decision, as the Court of Appeals correctly held.

II. CONGRESS AND THE PRESIDENT HAVE ACTED TO ADDRESS GLOBAL CLIMATE CHANGE.

Petitioners' melodramatic claim that failure to grant certiorari here "would likely drastically limit our ability to address the growing crisis" they say is posed by global climate change, Pet. Br. at 26, is wholly unfounded. As EPA explained in denying the rulemaking petition, Congress and the President have acted to address global climate change. Indeed, Congress and the President have continued to act to address the problem since EPA denied the petition for rulemaking.

Congress has enacted several statutes addressing global climate change and greenhouse gas emissions. It has focused much of its legislative efforts with regard to global climate change on establishing programs of research to reduce the scientific uncertainty surrounding global climate change issues. *See, e.g.*, Food and Agriculture Act, Pub. L. No. 101-624, tit.

XXIV, § 2401, 104 Stat. 4058 (1990) (creating a research program for global climate change agricultural issues); Global Change Research Act, Pub. L. No. 101-606, tit. I, §§ 102, 103, 106, 104 Stat. 3097-98, 3101 (1990) (establishing research programs and providing for scientific assessments every four years of the "current trends in global change"); Energy Security Act, Pub. L. No. 96-294, tit. VII, § 711, 94 Stat. 611, 774-75 (1980) (calling for a study of the "projected impact, on the level of carbon dioxide in the atmosphere, of fossil fuel combustion, coal-conversion and related synthetic fuel activities"); National Climate Program Act of 1978, 15 U.S.C. §§ 2901, 2904 (directing the President to establish a "national climate program," including "appropriate . . . recommendations for action"); *see also* 68 Fed. Reg. at 52927, A-74; S. Rep. No. 95-740, at 13, 14 (1978), 1978 U.S.C.C.A.N. 1398, 1399 (legislative history of National Climate Program Act of 1978) (research programs assist the nation in "respond[ing] more effectively to climate-induced problems").[2]

In 1992, Congress directed the Secretary of Energy to conduct several assessments related to greenhouse gases and report to Congress. Energy Policy Act of 1992, Pub. L. No. 102-486, § 1604, 106 Stat. 2776, 3002; *see also* 68 Fed. Reg. at 52927, A-75.

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[2] Congress also addressed global climate change in the CAA when it last enacted substantial amendments to the Act in 1990. *See* 68 Fed. Reg. at 52926, A-70 to A-72. In those amendments, Congress directed EPA "to develop, evaluate, and demonstrate nonregulatory strategies and technologies for air pollution prevention" that would address several substances, including CO_2. 42 U.S.C. § 7403(g). In an uncodified provision of the public law that includes the 1990 Amendments to the CAA, Congress required electric utilities to monitor and report annually their CO_2 emissions. Pub. L. No. 101-549, § 821(a), 104 Stat. 2399, 2699 (1990).

That statute directed the Executive Branch to develop a National Energy Policy Plan "to achieve to the maximum extent practicable and at least-cost to the Nation . . . the stabilization and eventual reduction in the generation of greenhouse gases." 42 U.S.C. § 13382(a), (g). Under the Act, the Department of Energy must assess "alternative policy mechanisms for reducing the generation of greenhouse gases." *Id.* § 13384. In enacting this statute, Congress sought analysis of "the important technical and policy issues that will enable us to make wiser decisions on more dramatic and possibly higher cost actions which should be undertaken only in the context of concerted international action." H.R. Rep. No. 102-474, pt. 1, at 152 (1992), 1992 U.S.C.C.A.N. 1953, 1975.[3]

Most recently, in the Energy Policy Act of 2005, Congress established additional specific federal policies to address global climate change, including coordination of technology development strategies and deployment of greenhouse gas reducing technologies in the United States and in developing countries. Pub. L. No. 109-58, tit. XVI, §§ 1610(b)(1), (c)(1), 1611, 119 Stat. 595, 1109.[4]

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[3] The Energy Policy Act of 1992 also provided for voluntary reporting of greenhouse gas emissions and reductions pursuant to Department of Energy guidelines. Pub. L. No. 102-486, § 1605(b), 106 Stat. 3002; *see also* Guidelines for Voluntary Greenhouse Gas Reporting, 71 Fed. Reg. 20784 (Apr. 21, 2006).

[4] During debate on the Energy Policy Act of 2005, Congress considered and rejected for a second time a legislative proposal to impose binding limits on CO_2 emissions. Senators McCain and Lieberman offered Amendment No. 826, known as the "Climate Stewardship and Innovation Act," which would have imposed mandatory limits on greenhouse gas emissions. 151 Cong. Rec. S6892, 6894 (daily ed. June 21, 2005). The Senate rejected this amendment by a vote of 38-60. Vote No. 148, June 22, 2005. The Senate in 2003 rejected a similar amendment by a vote of 43-55. Vote No. 420, 149 Cong. Rec. S13598 (daily ed. Oct. 30, 2003).

Congress and the President also have acted to address global climate change in the international arena. In 1987, in the Global Climate Protection Act, Congress directed the Secretary of State to coordinate U.S. negotiations concerning global climate change. *See* 15 U.S.C. § 2901 note; H.R. Rep. No. 102-474, pt. 1, at 152 (1992), 1992 U.S.C.C.A.N. at 1975 (mandatory measures to reduce greenhouse gas emissions should be undertaken "only in the context of concerted international action"); *see also* 68 Fed. Reg. at 52927, A-74. This Act also demonstrates the emphasis Congress has placed on research programs, stating that research "is crucial to the development of an effective United States response" to global climate change and declaring that U.S. policy is to "identify technologies and activities to limit mankind's adverse effect on the global climate . . . and . . . work toward multilateral agreements." Pub. L. No. 100-204, tit. XI, §§ 1102(3), 1103(a), 101 Stat. 1407, 1408 (1987) (codified at 15 U.S.C. § 2901 note).

Consistent with this directive, President George H. W. Bush signed, and the Senate ratified, the United Nations Framework Convention on Climate Change ("UNFCCC"), which established mechanisms for international approaches to address global climate change.[5] *See* UNFCCC Homepage, http://unfccc.int

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[5] The United States is not a party to the UNFCCC's Kyoto Protocol because Congress and the President want developing nations to participate in any international programs requiring reductions in greenhouse gas emissions on the same basis as developed nations (something the Kyoto Protocol does not require) and because participation in the Protocol "would have a negative economic impact" on the United States. Transcript, *President Bush Discusses Global Climate Change* (June 11, 2001), http://www.whitehouse.gov/news/releases/2001/06/20010611-2.html (visited May 5, 2006); S. Res. 98, 105th Cong. (1997) (Senate resolution, approved by a vote of 95-0, urging the President not to sign any international agreement to reduce

(last visited May 5, 2006). President George W. Bush has committed the United States "to work within the United Nations framework and elsewhere to develop with our friends and allies and nations throughout the world an effective and science-based response to the issue of global warming." Transcript, *President Bush Discusses Global Climate Change*; *see also* 68 Fed. Reg. at 52931, A-86 ("Unavoidably, climate change raises important foreign policy issues, and it is the President's prerogative to address them.").

To that end, in July 2005, President Bush reached an agreement with leaders of the other "G8" nations to "speed the development and deployment of clean energy technologies to . . . address[] climate change." White House Fact Sheet, Action on Climate Change, Energy and Sustainable Development (July 8, 2005), http://www.whitehouse.gov/news/releases/2005/07/20050708-2.html (last visited May 5, 2006). Later that month, the President announced that the United States was joining with two other developed nations (Japan and Australia) and three developing nations (China, India, and South Korea) in the Asia-Pacific Partnership on Clean Development and Climate to "achieve practical results" through programs "addressing the long-term challenge of climate change."[6] White House Fact Sheet, President Bush and the Asia-Pacific Partnership on Clean Development (July 27, 2005),

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greenhouse gas emissions that does not include developing nations); *see also* 68 Fed. Reg. at 52927, A-75.

[6] The Asia-Pacific Partnership, which is consistent with UNFCCC principles, "serve[s] as a framework for supporting . . . international cooperation among the Partners to meet [their] development, energy, environment, and climate change objectives." Charter for the Asia-Pacific Partnership on Clean Development and Climate (Jan. 2006), http://www.dfat.gov.au/environment/climate/ap6/charter.html (last visited May 5, 2006).

http://www.whitehouse.gov/news/releases/2005/07/print/20050727-11.html (last visited May 5, 2006).

Thus, no basis exists for Petitioners' suggestion that, absent this Court's grant of certiorari in this case, global climate change concerns will be unaddressed. The nation's elected decision makers have acted, and continue to act, in response to those concerns. Notwithstanding Petitioners' claims, this Court's review of the decision below is unnecessary and unwarranted.

CONCLUSION

For the foregoing reasons, the petition for writ of certiorari should be denied.

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IN THE

Supreme Court of the United States

COMMONWEALTH OF MASSACHUSETTS, *et al.*
Petitioners,
v.
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,
Respondent.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

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EPA's brief in opposition underscores rather than diminishes the urgency of this Court's review. First, the Solicitor General, on behalf of EPA, embraces the radical administrative law implications of the lead opinion below. It is black letter law that an agency must confine its decision-making to the factors that Congress mandated the agency to consider. Yet, because the Clean Air Act authorizes the Administrator to use his "judgment" in exercising his regulatory authority, EPA argues that the Administrator possesses unbridled discretion to act in any way he sees fit and is free to rely on broad policy considerations untethered to the substantive standards set forth in the statute. EPA Br. in Opp. 20. EPA asserts nothing short of the power to override the express limitations on agency discretion that Congress has enacted. Because literally hundreds of federal statutes authorize agency officials to use their "judgment" in exercising their discretion, the lead opinion below – now emphatically embraced by the Solicitor General – has sweeping ramifications for executive branch authority. These ramifications, standing alone, supply the "compelling reasons" necessary to warrant this Court's review. S. Ct. R. 10.

Second, EPA's opposition claims that the result below can be defended as an expert agency evaluation of scientific uncertainty. EPA Br. in Opp. 4-5, 19-21. But the brief cannot obscure the fact that the agency below never applied the governing statutory standard and relied on *ultra vires* policy considerations. This Court's supervisory review is necessary to assure that lower courts prevent, rather than encourage, such reckless agency departures from their statutory mandates.

Third, as described in the petition, the Court should extend its grant of certiorari to the legal question whether EPA has authority to regulate carbon dioxide and other "greenhouse gases" as "air pollutants," within the meaning of the Clean Air Act, even though the court below did not reach the issue. That legal issue was fully briefed below, exhaustively analyzed in Judge Tatel's separate opinion, and would not appreciably benefit from further "percolation" in the lower courts, especially in light of the D.C.

Circuit's exclusive jurisdiction over EPA actions that have national applicability. And, once the Court reaches the question of whether EPA can rely on policy considerations not enumerated in the statute, judicial efficiency strongly supports review of whether the agency has authority to regulate greenhouse gases.

Fourth, EPA's claim that petitioners lack Article III standing (EPA Br. in Opp. 10-15) does not support the petition's denial. The lower court's conclusion on standing does not conflict with decisions of any other court of appeals, and it presents a fact-bound ruling that does not rise to the level of importance necessary for this Court's plenary consideration. Because, moreover, petitioners clearly meet Article III standing requirements, there is nothing preventing this Court from reaching the important question of federal law presented by the petition.

Finally, the Court should decline the brief in opposition's invitation to delay indefinitely any consideration of the critical legal issues raised by the petition. There are compelling reasons for the Court to join the issue now. The question whether and to what extent this nation should be addressing global climate change is one of the most important public health and welfare issues of the twenty-first century, with extraordinary implications for present and future generations of Americans.

We believe that the science is clear that EPA should act. But whatever one believes on this point, the executive branch cannot ignore the clear instructions of the legislative branch in determining how best to address such an important issue. Congress has not ordained the EPA or any other part of the executive branch a "super legislature" to decide how climate change should be addressed. Congress instead enacted a law, the Clean Air Act, that established a framework for addressing new air pollution problems, as they appeared, including through regulating emissions from motor vehicles. It is incumbent upon the executive branch to adhere strictly to the law's terms. If the

executive branch believes there is a reason to depart from that existing statutory framework, its sole recourse is to persuade Congress to amend the law. For that reason, the lower court fundamentally erred in sanctioning the executive branch's bald attempt to refashion the law by administrative fiat. The petition should, accordingly, be granted.

I. The Solicitor General's Assertion That EPA Has Virtually Unbridled Discretion Underscores the Need for this Court's Review.

On behalf of EPA, the Solicitor General invokes a radical vision of administrative law under which agencies can exercise unlimited legislative judgment immune from judicial review. This extraordinary assertion of executive authority underscores the need for this Court's review.

Section 202(a)(1) of the Clean Air Act dictates that the Administrator's decision whether to regulate motor vehicle emissions must turn on his "judgment" whether these emissions "may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7521(a)(1). The lower court decision, however, allows EPA to base its decision on "'policy' considerations" that are not legally relevant under the statutory endangerment standard. (App. 13-14.) As Judge Tatel observed in dissent, the statute provides the Administrator "no discretion either to base that judgment on reasons unrelated to this standard or to withhold judgment for such reasons." (App. 46.) EPA cannot ignore a congressional mandate that it "shall" regulate dangerous substances simply because it disagrees that such regulation would be a good idea.

In its opposition, EPA responds with extravagant claims of virtually unlimited discretion. EPA contends that because Section 202(a)(1) authorizes the agency to use "judgment" in deciding whether the endangerment standard has been met, the Administrator has authority to consider any other policy

consideration he chooses. EPA Br. in Opp. 20. According to the agency: "Section 202(a)(1) simply states that any regulation in this area is conditioned on an exercise of EPA's 'judgment,' and it does not in any way cabin the Agency's discretion -- procedural or substantive -- to decide how to make that judgment most effectively." *Id. See, also, id.* at 19 & n.7 (defending the agency's decision not to regulate based on its assessment of the "policy implications" of regulating).

The word "judgment" cannot support the Solicitor General's sweeping claim of unbridled executive branch lawmaking authority. Simply put, authorizing an agency official to use "judgment" in applying the surrounding statutory criteria does not evince congressional intent to override the plain meaning of those criteria. In choosing language of governing statutes, Congress carefully imposes important substantive and procedural restraints on agency officials' exercise of their lawmaking authority. These restraints supply the "intelligible principle" necessary to avoid nondelegation doctrine concerns, as well as the "law to apply" necessary for judicial review. *See Citizens to Preserve Overton Park v. Volpe*, 401 U.S. 402, 410 (1971) (citation omitted).

EPA's provocative contentions are squarely opposed to this Court's administrative law precedents. It is axiomatic that an agency must stick to the criteria that its statute makes relevant. *Motor Vehicle Mfrs. Ass'n of U.S. v. State Farm Mut. Auto Ins.Co.*, 463 U.S. 29, 43 (1983). This Court has emphatically applied this principle in interpreting the Clean Air Act. In *Whitman v. American Trucking Ass'ns, Inc.*, 531 U.S. 457, 467-71 (2001), the Court unanimously rejected the notion that EPA could apply economic factors to a decision that Congress directed be made based on health-based criteria. Notably, the Court rejected the argument that the Administrator could apply substantive policy factors other than those set forth in the statute even though the statute directed him to apply his "judgment" in

coming to a decision. *Id.* at 469.

The one opinion of this Court that EPA cites in support of its claim to unbridled discretion does not help the agency. That case, *Vermont Yankee Nuclear Power Corp v. NRDC,* 435 U.S. 519 (1978), rejected the D.C. Circuit's imposition of extra procedures on agency rulemakings beyond the Administrative Procedure Act minimum. Far from advocating imposition of optional procedures, petitioners here simply seek ordinary judicial review of a final agency decision, as expressly provided for in the Clean Air Act. In *Motor Vehicle Mfrs. Ass'n,* this Court recognized that *Vermont Yankee* poses no obstacle to such review, and indeed cautioned against reading that decision as "a talisman under which any agency decision is by definition unimpeachable." 463 U.S. at 50.[1]

The Solicitor General's contention that the statutory phrase "in his judgment" confers unfettered discretion would have a huge impact on executive branch authority far beyond this case. The directive to use "judgment" in applying statutory criteria is repeated not only throughout federal environmental laws, but in a host of other federal laws covering a wide range of subjects. In each such statute, Congress has conferred lawmaking authority on federal executive branch agencies. As this Court described in *Whitman v. American Trucking*:

> the degree of agency discretion that is acceptable varies according to the scope of the power congressionally

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[1] EPA also claims that its decision below may be unreviewable because it involves the denial of a rulemaking petition, despite the fact that the agency issued a detailed decision on the merits after soliciting and considering almost 50,000 public comments. *See* EPA Br. in Opp. 17, n. 6 (suggesting that an agency's discretion to reject regulatory action is "'so broad as to make the process akin to nonreviewability,'" *quoting Nat'l Mining Ass'n v. DOI,* 70 F.3d 1345, 1352 (D.C. Cir. 1995)). This extraordinary position is refuted by the Clean Air Act's judicial review provisions and the Administrative Procedure Act, neither of which distinguishes between such denials and other kinds of agency decisions.

> conferred. While Congress need not provide any direction to EPA regarding the manner in which it is to define "country elevators," * * * it must provide substantial guidance on setting standards * * * that affect the entire national economy.

531 U.S. at 475 (citation omitted).

Yet, according to the Solicitor General and EPA, by including the statutory phrase "in his judgment," Congress has dictated that there be no limits at all – either "procedural or substantive" (EPA Br. in Opp. 20) – on agency discretion in administering hundreds of federal statutory programs throughout the United States Code. The separation of powers implications of such a pernicious proposition clearly supply the "compelling reasons" necessary to warrant this Court's review. S. Ct. R. 10.

II. EPA Mischaracterizes This Case As Turning On Its Evaluation of Scientific Uncertainty

The Solicitor General alternatively suggests that EPA's decision turned exclusively on the agency's evaluation of uncertainty in the science of climate change. *See, e.g.*, EPA Br. in Opp. 4-5. But EPA has never claimed that additional information is needed to form a "judgment" on whether the endangerment standard had been met. *See* App. 50 (Tatel, J.) Moreover, scientific uncertainty was only one of several factors that EPA cited as a reason for not setting emission standards for greenhouse gases. *See* App. 13-15. Judge Randolph's lead opinion expressly noted (and endorsed) the Administrator's reliance on wide ranging "'policy' considerations" akin to those that might be considered by a legislature in deciding whether to pass a law. *Id.* Reliance on these *ultra vires* factors inherently taints EPA's decision, and, at the very least, a remand is required to compel the lower court to apply the statutory standard actually supplied by Congress – whether greenhouse gas emissions from motor vehicles "cause or contribute to, air

pollution which may reasonably be anticipated to endanger public health or welfare." *See* 42 U.S.C. § 7521 (a)(1).

Further, the brief in opposition mischaracterizes the science in the administrative record, in particular the 2001 National Research Council Report on which it claims to rely. *See* Br. in Opp. 4. What the 2001 report actually expressed was the consensus conclusion of scientific experts throughout the world that, "[d]espite the uncertainties," global warming is real and is occurring as a result of greenhouse gas emissions. *See, e.g.*, NRC Report at 1, 3 [JA 681, 683].

The amicus brief filed by leading climate scientists, including several authors of the NRC Report, explains how EPA and the lead opinion below misrepresent what the 2001 report actually says by using selective citations "that emphasize uncertainties in the details while neglecting fundamental areas of certainty or consensus, giving the impression that climate science is more uncertain than it actually is." *See,* Br. of *Amici Curiae* Climate Scientists David Battisti, *et al.*, 16. While the scientists obviously believe that further study as to the exact timing and magnitude of the anticipated impacts has important value, they emphasize that such study need not, and should not, delay evaluation of the scope of the threat posed and whether regulation is warranted. *Id.* at 14-16, 19. Their brief underscores EPA's utter failure to explain why remaining uncertainties in the details justify EPA's inaction. *See Motor Vehicle Mfrs. Ass'n,* 463 U.S. at 52 (agency cannot "merely recite the terms 'substantial uncertainty' as a justification for its actions" but must "explain the evidence which is available, and must offer a rational connection between the facts found and the choice made")(internal quotation omitted).

Finally, EPA mischaracterizes petitioners' position on the legal significance of scientific uncertainty. EPA Br. in Opp. 19-20. Petitioners recognize that the EPA Administrator enjoys substantial discretion in evaluating the science so as to form his "judgment" on whether the statutory endangerment standard has

been met. But this is a far cry from the agency's claim – blessed by the lead opinion below – of freedom to cite uncertainty as a basis for refusing regulatory action without in any way measuring the scientific particulars against the statutory endangerment standard. This Court's review is necessary to provide appropriate guidance to the courts of appeal.

III. The Question of EPA's Legal Authority to Regulate Greenhouse Gases Is Fit for Supreme Court Review Now.

EPA argues that this Court should not review whether the Clean Air Act authorizes regulation of greenhouse gas emissions because the question "was not decided by the court of appeals. . . and it has never been addressed by any other court of appeals." EPA Br. in Opp. 22. But that important statutory question was fully argued below, and Judge Tatel's opinion analyzes it in detail, without any contrary views expressed by the other members of the panel. The value of waiting for the D.C. Circuit to address the issue in another case is minimal. This Court should grant review of the question now in the interest of judicial economy. *Bennett v. Spear*, 520 U.S. 154, 166-67 (1997)(reaching issues that were not relied upon by the lower court).

Such review is also supported by the jurisdictional provisions of the Clean Air Act, which favor prompt and definitive review by setting a 60-day statute of limitations and by channeling all nationally applicable EPA decisions to the D.C. Circuit. 42 U.S.C. § 7607(b). *See, also,* H.R. Rep. No. 95-294, at 323-24 (confirming this intent). Indeed, given the D.C. Circuit's exclusive jurisdiction over EPA's nationally applicable decisions, the issue may never come before another circuit.

IV. Petitioners Amply Demonstrated Their Standing.

EPA's claim that petitioners lack Article III standing to challenge EPA's decision (EPA Br. in Opp. 10-15) is neither

worthy of this Court's consideration nor a basis to deny certiorari on the issues petitioners have raised. The lower court's standing determination is correct, does not conflict with any other court of appeals' ruling, and is an entirely fact-bound ruling that falls far short of a legal issue warranting this Court's review. Even if the Court were to conclude that petitioners' standing should be addressed, however, that would at most supply an additional issue for review and not a reason to deny review of petitioners' issues.

The two judges who found jurisdiction each expressly determined that petitioners' declarations supported all three elements of standing: injury-in-fact, causation, and redressability. (App. 8, 27-31.)[2] Their conclusion was unquestionably correct.

Injury in fact: Through voluminous and uncontested declarations, petitioners documented harm they face as a result of EPA's refusal to regulate the emission of greenhouse gases. As just one example, petitioner Massachusetts owns approximately 200 miles of coastline that is being inundated as a result of rising seas caused by greenhouse gas emissions. *See* Hoogeboom Decl. ¶¶ 4-9; Jacqz Decl. ¶¶ 8-11; MacCracken Decl. ¶ 23-25; Kirshen Decl. ¶¶ 7-8, Oppenheimer Decl. ¶ 7. Judge Tatel's opinion includes an extensive discussion of how the injuries that petitioners will suffer are the sorts of specific, concrete injuries necessary to establish injury-in-fact. *See* App. 27-28. EPA does not contest

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[2] While finding jurisdiction, Judge Randolph nevertheless raised some question about petitioners' standing. He concluded that there appeared to be a live factual controversy over standing based on his sense that there must be evidence in the administrative record (which he did not identify) that "contradicts petitioners' claim that greenhouse gas emissions from new motor vehicles have caused or will cause a significant change in the global climate." (App. 9.) But EPA never asserted a factual controversy at any stage of this proceeding and does not do so today. *See* EPA Br. in Opp 15 (disavowing any reliance on a "factual dispute raised by the declarations submitted by petitioners"). Even though Judge Randolph's discussion about what appellate courts should do in the event of a factual dispute over standing was unnecessary, his conclusion that the court had jurisdiction was correct.

this conclusion.[3]

Causation: EPA also does not contest petitioners' demonstration that greenhouse gas emissions are causing their injury. Because greenhouse gases are emitted from many sources, however, EPA argues that petitioners have not sufficiently demonstrated that its failure to set emissions standards for motor vehicles is causing their harm. But it is uncontested that additional greenhouse gas emissions will cause effects (such as increased sea level rise) that will increase petitioners' harm (such as destruction of property that state petitioners own along the coast). This causation depends on the laws of physics, not the independent actions of third parties. Petitioners' uncontested proof of their harm is neither "indirect" nor "speculative."

Redressability: Given this causal relationship, it follows that by limiting emissions from U.S. motor vehicles, EPA would reduce the injury caused to petitioners by these emissions. Hence, reversal of EPA's position would redress harm to the petitioners. Reversal of EPA's legal position would also allow additional redress through regulation of other sources that emit greenhouse gases, such as power plants. Motor vehicles and power plants together represent 60 percent of U.S. carbon dioxide emissions, hardly an inconsiderable share of the problem given that U.S. emissions make up approximately one-fourth of world totals. MacCracken Decl. ¶¶ 30-31. The court of appeals correctly rejected EPA's causation and redressability arguments and properly determined that it had jurisdiction.

Conclusion

For the foregoing reasons, and those stated in the petition, the petition for a writ of certiorari should be granted.

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[3] The Solicitor General offers no support for Judge Sentelle's conclusion that the generalized grievance doctrine applies (App. 18-19), a conclusion that cannot be squared with either the majority or dissenting opinions in *Federal Election Comm'n v. Akins*, 524 U.S. 11, 23-25, 35 (1998).

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In The Supreme Court of the United States

COMMONWEALTH OF MASSACHUSETTS, *et al.*,

Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,

Respondent.

ON PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

AMICUS BRIEF IN SUPPORT OF PETITION FOR WRIT OF CERTIORARI

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Interests of Amici Curiae

The Alaska Inter-Tribal Council (AITC) is a statewide, tribally governed, non-profit organization that advocates on behalf of tribal governments throughout the state.

The Council of Athabascan Tribal Governments (CATG) is a consortium of the ten Tribes in the Yukon Flats region of Alaska, nine of which are federally recognized Tribes. CATG is comprised of nine Gwich'in Tribes and one Koyukon Athabascan Tribe that occupy lands in the Yukon Flats region in the northeastern interior of Alaska.

Resisting Environmental Destruction on Indigenous Lands (REDOIL), a project of the Indigenous Environmental Network, consists of Alaska Natives of the Inupiat, Yupik, Aleut, Tlingit, Gwich'in, Eyak and Denaiana Athabascan Tribes

AITC, CATG and REDOIL are greatly concerned about the impacts of global warming on their members. Living in the Arctic and sub-Arctic regions of Alaska, their members experience daily the effects of global warming, including thinning sea ice, increased coastal erosion, melting permafrost, and changes in plant and animal distributions.

Global warming is depleting the subsistence resources of the members of AITC, CATG and REDOIL and threatening their health and safety. As a result, the members of AITC, CATG and REDOIL have an interest in ensuring that the Federal Government has the authority under the Clean Air Act to regulate greenhouse gas emissions.

Authority for Filing Amicus Brief

Authority to file this brief is by consent under Supreme Court Rule 37. All parties to this case have consented to the filing of this brief.

Corporate Disclosure Statement

The *amici*, AITC, CATG and REDOIL, are all nonprofit corporations or organizations. None of them has a parent corporation, and no publicly held company has a 10 percent or greater ownership interest in any of these entities.

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Table of Authorities

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Cases

Native Village of Quinhagak v. Lujan,
35 F.3d 388 (9th Cir. 1994) 10

Statutes, Regulations & Court Rules

Alaska National Interest Lands Conservation Act
16 U.S.C. § 3111 *et seq* 8, 10

Clean Air Act

§ 202(a)(1), 42 U.S.C. § 4521(a)(1) 3

§ 302(g), 42 U.S.C. § 7602(g) 3

§ 302(h), 42 U.S.C. § 7602(h) 3

Endangered Species Act
16 U.S.C. §1539(e) 8

The Federally Recognized Indian Tribe List Act
Pub. L. No. 103-454, 108 Stat. 4791 (1994),
70 Fed. Reg. 71194-01 (Nov. 25, 2005)
25 U.S.C. § 479a-1(a) 2

Marine Mammal Protection Act
16 U.S.C. § 1371(b) 8

Migratory Bird Treaty Act
16 U.S.C. § 712(1) 8

Exec. Order No. 13175 §3(a), 65 Fed. Reg. 67249 (Nov. 9, 2000) *Executive Mem. on Government-to-Government Relations with Native American Tribal Governments* § 9 (April 29, 2004) 2

Other Authorities

Alaska Native Heritage Center website at http://www.alaskanative.net/2.asp 2

Bauman, Margaret, *Conference Attendees Receive an Account of Arctic Warming*, Peninsula Clarion (Nov. 30, 2005) 1

Chance, Norman A., *The Inupiat and Arctic Alaska: An Ethnography of Development*, Harcourt (1990). 7

Egan, Timothy, *Alaska, No Longer So Frigid, Starts to Crack, Burn and Sag*, The New York Times, §1 at 1 (June 16, 2002) 16

Finney, Bruce P., *et al.*, *Impacts of Climatic Change and Fishing on Pacific Salmon Abundance Over the Past 300 Years*, 290 Science (2000). 9

Gibson, Margie Ann & Schullinger, Sallie B., *Answers from the Ice Edge: The Consequences of Climate Change on Life in the Bering and Chukchi Seas* (Greenpeace U.S.A. 1998). 12

Gregory, Jonathan M., *et al.*, *Threatened Loss of the Greenland Ice Sheet*, 428 Nature 616 (2004). 11

Hansen, James, et al., *Global Temperature Trends: 2005 Summation*, National Aeronautics and Space Agency (2005), available at http://data.giss.nasa.gov/gistemp/2005/ 5

Hassol, Susan Joy, Arctic Council, *Impacts of a Warming Arctic: Arctic Climate Impact Assessment* 5 (2004) ..... *passim*

Hinzman, Larry D. *et al.*, *Evidence and Implications of Recent Climate Change in Northern Alaska and Other Arctic Regions*, 72 Climatic Change 252 (2005). 5, 8

Intergovernmental Panel on Climate Change, *Third Assessment Report* (2001), Contribution of Working Group 1, Summary for Policymakers, at 2, Houghton, J.T., *et al.*, eds., Cambridge University Press (2001). 5, 6, 11

Karl, Thomas R. & Trenberth, Kevin E., *Modern Global Climate Change*, 302 Science 1721 (2003). 4

Lawrence, David M. and Slater, Andrew G., *A projection of severe near-surface permafrost degradation during the 21st Century*, 32 Geophysical Research Letters L24401 (Dec. 17, 2005). 15

Maynard, Nancy G., *Final Report: Native Peoples-Native Homelands Climate Change Workshop* 62 (1998) 14

Memorandum of William Ruckelshaus, EPA Administrator, *EPA Policy for the Administration of Environmental Programs on Indian Reservations*, Nov. 8, 1984. 3

Motavalli, Jim, *Feeling the Heat: Dispatches from the Frontlines of Climate Change* 108, Routledge (2004). 13

National Assessment Synthesis Team, U.S. Global Change Res. Program, *Climate Change Impacts on the United States: The Potential Consequences of Climate Variability and Change* 366, (2000) 13

National Research Council, National Academy of Sciences, *Cumulative Environmental Effects of Oil & Gas Activities on Alaska's North Slope*, at 92 (National Academies Press 2003) 12

O'Hara, Doug, *Permafrost is Warming*, Anchorage Daily News, at A1 (Aug. 14, 2005) 15, 16

Overpeck, J.T. *et al.*, *Arctic System on Trajectory to New, Seasonally Ice-Free State*, 86 *EOS* 312 (2005) 11

Peter, Evon *The People and the Caribou Are One*, *Voices from the Earth* (Spring 2005), available at http://www.sric.org/voices/2005/v6n1/caribou.html 10

Roosevelt, Margot, Vanishing Alaska: Global Warming is Flooding Villages Along the Coast. Should They Surrender and Move? Time Magazine (Sept. 27, 2004) 9, 18, 19, 20

Rosen, Yereth, Warming Climate Disrupts Alaska Natives' Lives, Reuters (April 16, 2004) 10

Smith, Orson P., & Levasseur, George, *Impacts of Climate Change on Transportation Infrastructure in Alaska, The Potential Impacts of Climate Change on Transportation, Part II, Regional Case Studies* 6 (U.S. Dep't of Transportation, 2001) 18

Sturm, Matthew, *et al.*, *Meltdown in the North*, *Scientific American* 62 (Oct. 2003) 11

U.S. Arctic Research Commission, *Climate Change, Permafrost, and Impacts on Civil Infrastructure*, 3 (2003), available at http://www.arctic.gov/publications.htm 14, 15

U.S. Arctic Research Commission, *The Arctic Ocean and Climate Change: A Scenario For The U.S. Navy*, 10 (2002) available at http://www.arctic.gov/publications.htm 14

U.S. Department of Interior, *Outer Continental Shelf Oil & Gas Leasing Program: 2002–2007 Final Environmental Impact Statement*, at 4-7 (April 2002). 12

U.S. General Accounting Office, *Alaska Native Villages: Most Are Affected by Flooding and Erosion, But Few Qualify for Federal Assistance*, 2-3 (December 2003) 19, 20

U.S. Geological Service, *Sea Level and Climate*, available at http://pubs.usgs.gov/fs/fs2-00/ 12

U.S. Geological Service, *Status and Trends of the Nation's Biological Resources, Part 2* (Alaska), available at http://biology.usgs.gov/s+t/SNT/noframe/ak177.htm 16

Verrengia, Joseph B., *In Alaska, an Ancestral Island Home Falls Victim to Global Warming*, Associated Press (Sept. 10, 2002). 18, 19

Watt-Cloutier, Sheila, *et al.*, *Responding to Global Climate Change: The Perspective of the Inuit Circumpolar Conference on the Arctic Climate Impact Assessment, 2° Is Too Much! Evidence and Implications of Dangerous Climate Change in the Arctic*, World Wildlife Fund (2005). 4, 8

Watt-Cloutier, Sheila, *Threat to North's Cultural Survival*, 109 ECO at 1 (Dec. 11, 2003). 7

Weller, Don, *Effects of Climate Change on Subsistence Communities in Alaska, Assessing the Consequences of Climate Change for Alaska and the Bering Sea Region: Proceedings of a Workshop at the University of Alaska Fairbanks* 66 (Nov. 1999). 12

Summary of Argument

By failing to heed the scientific consensus that global warming is occurring at an unprecedented rate, the Environmental Protection Agency (EPA) has ignored its mission to protect human health from environmental pollutants. No one feels the impacts of the Federal Government's inaction more than Alaska Natives, whose lives, traditions and cultures are in jeopardy.

Nowhere are the effects of greenhouse gas emissions more severe than in the Arctic, where the rate of warming is twice that of the rest of the world. Alaska is on the front lines of global warming: polar sea ice is disappearing, glaciers are receding, permafrost is melting, wildlife populations are declining, and coasts eroding. At stake is the physical and cultural survival of Alaska's oldest inhabitants.

The Environmental Protection Agency has clearly established authority to regulate greenhouse gases. Despite EPA's claim to the contrary, the plain meaning of the Clean Air Act, as well as its legislative history, mandate that the agency regulate air pollutants that may reasonably be anticipated to endanger public health or welfare. While regulating greenhouse gas emissions from automobiles would be only the first step toward addressing potentially catastrophic climate change, it is necessary if the unique traditions and communities of Alaska's Native peoples are to survive this century.

I. Introduction

> *"We are experiencing things in one lifetime that should take five or six generations. . . . We are making do with less [subsistence food] and trying to make the most of it."* — Ronald Brower Sr., speaking on behalf of the Inuit Circumpolar Conference (ICC).[1]

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[1] Margaret Bauman, *Conference Attendees Receive an Account of Arctic Warming*, Peninsula Clarion, at A2 (Nov. 30, 2005). The ICC is an international organization representing about 145,000 Inuit living in Arctic regions of Alaska, Canada, Greenland and Chukotka, Russia. *Id.*

Alaska Natives comprise eleven distinct cultures. These cultures are generally organized into five groupings that draw upon cultural similarities or geographic proximity: the Athabascan of the Interior and eastern Alaska, the Yup'ik and Cup'ik of western Alaska, the Inupiaq and St. Lawrence Island Yupik of the northern and northwestern Arctic, the Aleut and Alutiiq of Southcentral Alaska and Aleutian Islands, and the Eyak, Tlingit, Haida, and Tsimshian of the southeastern archipelago.[2]

Alaska Natives are politically organized into 228 federally recognized tribes.[3] The Federal Government has a "unique legal relationship" with tribal governments that includes recognizing Tribes as sovereign governments.[4] EPA and other federal agencies must "ensure meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications."[5] EPA must give special consideration to Tribal interests in making Agency policy and insure the close involvement of Tribal Governments in making decisions and managing

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[2] *See* Alaska Native Heritage Center website at http://www.alaskanative.net/2.asp (last visited April 6, 2006).

[3] 70 Fed. Reg. 71194-01 (Nov. 25, 2005). The Federally Recognized Indian Tribe List Act, Pub. L. No. 103-454, 108 Stat. 4791 (1994), requires the Secretary of the Interior to keep a list of federally recognized tribes. 25 U.S.C. § 479a-1(a).

[4] *See, e.g.*, Exec. Order No. 13175 §3(a), 65 Fed. Reg. 67249 (Nov. 6, 2000) ("Agencies shall respect Indian tribal self-government and sovereignty, honor tribal treaty and other rights, and strive to meet the responsibilities that arise from the unique legal relationship between the Federal Government and Indian tribal governments."); *Executive Mem. on Government-to-Government Relations with Native American Tribal Governments* § 9 (April 29, 2004) (directing Federal agencies to operate "within a government-to-government relationship with federally recognized Native American tribes").

[5] *Id.* at § 5(a).

environmental programs affecting Tribal lands.[6]

The plain language of the Clean Air Act gives EPA authority to regulate greenhouse gas emissions from automobiles. Section 202(a)(1) and other provisions in the Clean Air Act require EPA to regulate air pollutants that endanger public health or welfare. 42 U.S.C. § 4521(a)(1) (EPA shall regulate air pollutants from motor vehicles that "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare"). The air pollutants subject to regulation under section 202 are defined as "any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air. . . ." Clean Air Act § 302(g), 42 U.S.C. § 7602(g).

"[W]elfare includes, but is not limited to, effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and *climate*, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants." Clean Air Act § 302(h), 42 U.S.C. § 7602(h) (emphasis added). Thus, a substance emitted into the air that endangers climate is subject to regulation under section 202.

In 2004, the Arctic Council commissioned a report that consolidated the scientific research on global warming trends, causes, and effects.[7] Nearly 300 scientists

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[6] Mem. of William Ruckelshaus, EPA Administrator, *EPA Policy for the Administration of Environmental Programs on Indian Reservations*, Nov. 8, 1984.

[7] The Council is a high-level intergovernmental forum that addresses the common concerns and challenges faced by the people and governments of the eight Arctic nations: Canada, Denmark/Greenland/Faroe Islands, Finland, Iceland, Norway, Russia, Sweden, and the United States; six Indigenous Peoples' organizations – Aleut International Association, Arctic Athabaskan Council, Gwich'in Council International, Inuit

collaborated on the report, the *Arctic Climate Impact Assessment*, which also included traditional knowledge from Arctic indigenous communities.[8] Among its key findings were that global temperature is rising at an unprecedented rate and the worst is still to come. There is a 90 percent probability that by 2100, the Earth will warm between 1.7 degrees and 4.9 degrees Celsius, resulting in more frequent heat waves, droughts, and extreme precipitation events.[9]

The annual average temperature in the Arctic has increased at almost twice the rate as that in the rest of the world over the past few decades.[10] Increasing global concentrations of carbon dioxide (CO_2) and other greenhouse gases are projected to contribute to additional Arctic warming of about 4 degrees to 7 degrees Celsius over the next 100 years.[11] Scientists predict the Arctic will enter a

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Circumpolar Conference, Russian Association of Indigenous Peoples of the North, and Saami Council; and scientific observers.

[8] Hassol, Susan Joy, Arctic Council, *Impacts of a Warming Arctic: Arctic Climate Impact Assessment* 5 (2004) (hereinafter "ACIA report"). The six Arctic Indigenous Peoples' organizations submitted a statement to be included in the report. It was rejected as too political. The statement said, in part:

> *To Arctic Indigenous Peoples climate change is a cultural issue. We have survived in a harsh environment and if, as a result of global climate change, the species of animals upon which we depend are greatly reduced in number or location or even disappear, we as peoples would also disappear.*

Sheila Watt-Cloutier *et al.*, *Responding to Global Climate Change: The Perspective of the Inuit Circumpolar Conference on the Arctic Climate Impact Assessment, 2° Is Too Much! Evidence and Implications of Dangerous Climate Change in the Arctic* 59 World Wildlife Fund (2005).

[9] Thomas R. Karl & Kevin E. Trenberth, *Modern Global Climate Change*, 302 Science 1721 (2003).

[10] ACIA report, *supra* note 8, at 10.

[11] *Id.*

warming period not seen in recent history.[12]

In 2001, the Intergovernmental Panel on Climate Change (IPCC) released a definitive report on global warming. The *Third Assessment Report*, which incorporated the findings of hundreds of scientists from around the world, was reviewed and approved by more than 100 governments.[13] The report concluded that the increase in temperature in the 20th century was likely the largest of any century in the past 1,000 years.[14] Last year, 2005, was the warmest year in the last century.[15]

Moreover, the likely rate of future warming is much larger than the observed changes in the 20th century and is very likely to be without precedent during at least the last 100,000 years.[16] In part, this is because much of the anthropogenic carbon emissions is dissolved into the oceans.[17] Currently, the ocean and the land together are

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[12] Larry D. Hinzman *et al.*, *Evidence and Implications of Recent Climate Change in Northern Alaska and Other Arctic Regions*, 72 Climatic Change 252 (2005).

[13] IPCC, *Third Assessment Report: The Scientific Basis*, Contribution of Working Group I, Summary for Policymakers, at 2, J.T. Houghton, *et al.*, eds., Cambridge Univ. Press (2001). This IPCC report contains (i) up-to-date descriptions of the climate system and related factors, (ii) based on the knowledge of the international expert communities, (iii) produced by an open and peer-reviewed professional process, and (iv) based upon scientific publications whose findings are summarized in terms useful to decision makers. *Id.*, Technical Summary, at 2.

[14] IPCC, *Third Assessment Report: The Scientific Basis*, Contribution of Working Group I, *supra* note 13, Summary for Policymakers, at 2.

[15] James Hansen, *et al.*, *Global Temperature Trends: 2005 Summation*, National Aeronautics and Space Agency (2005), *available at* http://data.giss.nasa.gov/gistemp/2005/.

[16] IPCC, *Third Assessment Report: The Scientific Basis*, Contribution of Working Group I, *supra* note 13, Summary for Policymakers, at 13.

[17] IPCC, *Third Assessment Report: The Scientific Basis*, Contribution of Working Group I, *supra* note 13, at 197.

absorbing about half of the anthropogenic CO_2 emissions.[18] The total amount of carbon in the oceans is about 50 times greater than in the atmosphere.[19]

However, the capacity of the oceans to absorb anthropogenic CO_2 is decreasing as CO_2 levels increase.[20] The net effect will be more CO_2 in the atmosphere and an enhanced warming.[21] As a result, global mean temperature will increase for hundreds of years, even after CO_2 concentrations have been stabilized.[22] Further, many greenhouse gases reside in the atmosphere for centuries after being emitted, thereby causing a long-term warming effect.[23]

The IPCC report predicted a grim future for the Arctic:

> *The Arctic is extremely vulnerable to climate change, and major physical, ecological, and economic impacts are expected to appear rapidly.* A variety of feedback mechanisms will cause an amplified response, with consequent impacts on other systems and people. There will be different species compositions on land and sea, poleward shifts in species assemblages, and severe disruptions for communities of people who lead traditional lifestyles. In developed areas of the Arctic and where the permafrost is ice rich, special attention will be required to mitigate the detrimental impacts of thawing, such as severe damage to buildings and transport infrastructure.[24]

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[18] IPCC, *Third Assessment Report: The Scientific Basis*, Contribution of Working Group I, *supra* note 13, Summary for Policymakers, at 7.

[19] *Id.* at 197.

[20] IPCC, *Third Assessment Report: The Scientific Basis*, Contribution of Working Group I, *supra* note 13, at 199.

[21] *See id.* at 224.

[22] IPCC, *Third Assessment Report: The Scientific Basis*, Contribution of Working Group I, *supra* note 13, Technical Summary, at 76.

[23] *Id.* at 24.

[24] *Id.* at 60 (emphasis added). A process is called a feedback when the result of the process affects its origin thereby intensifying (positive feedback) or reducing (negative feedback) the original effect. *Id.* at 91.

International scientific consensus indicates that most of the atmospheric warming over the past 50 years is attributable to human activities, primarily the burning of fossil fuels.[25] Emissions from these activities increase concentrations of CO_2, methane, and other heat-trapping gases in the atmosphere.[26] Since the start of the industrial revolution, the atmospheric CO_2 concentration has increased by about 35 percent.[27]

As discussed below, the unchecked consumption of fossil fuels impairs the ability of Alaska's Native peoples to continue their way of life, which necessarily entails a close reliance on a stable Arctic environment.

II. Global Warming Threatens the Physical and Cultural Survival of Alaska Natives.

> *"Time is running out for the Arctic. We need far-reaching, long-term global commitments to reduce emissions of greenhouse gases if the Arctic is to be protected and if our human rights, particularly our human rights to subsistence, are to be respected."*
>
> — Sheila Watt-Cloutier, ICC Chair[28]

Alaska Natives have occupied Alaska for thousands of years.[29] They rely upon and have a sophisticated knowledge of their natural environment. This physical and spiritual relationship is sometimes encapsulated in the term "subsistence."

Congress defined subsistence as "the customary and traditional uses . . . of wild, renewable resources" for food, clothing, sharing, or other customary uses.[30] It also

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[25] ACIA report, *supra* note 8, at 2.

[26] ACIA report, *supra* note 8, at 2.

[27] *Id.*

[28] *Threat to North's Cultural Survival*, 109 ECO at 1 (Dec. 11, 2003).

[29] Norman A. Chance, *The Inupiat and Arctic Alaska: An Ethnography of Development*, 17-18, Harcourt (1990).

[30] Alaska National Interest Lands Conservation Act ("ANILCA"), 16 U.S.C. § 3113.

recognized the importance of Alaska Native subsistence by giving subsistence activities expanded protections under federal environmental and public land statutes.[31]

Alaska Natives, relying on their traditional knowledge of the sea, ice, land, and animals, thrive in an extreme environment.[32] These resources not only sustain the economic and nutritional viability of Alaska Native communities, they also provide a basis for social identity, spiritual life, and cultural survival.[33]

Global warming threatens drastic changes to the very existence of Alaska Native communities.[34] The sea ice is less stable, weather patterns are unusual, vegetation cover is changing, and key subsistence species are no longer found in traditional hunting areas during the expected seasons.[35]

Since the 1970s, Alaska Natives have reported environmental changes outside the bounds of "normal" variability.[36] They have reported sightings of American robins and salmon, whose normal range does not include the Arctic.[37] Several communities have observed changes in the health and behavior of caribou, a key subsistence species.[38]

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[31] *See, e.g.,* Endangered Species Act, 16 U.S.C. §1539(e) (exempting Alaska Natives from take provisions "if such taking is primarily for subsistence purposes"); Marine Mammal Protection Act, 16 U.S.C. § 1371(b) (exempting Alaska Natives from Act's take provisions if take "is for subsistence purposes"); Migratory Bird Treaty Act, 16 U.S.C. § 712(1) (enabling Secretary of Interior to permit Alaska Natives to take migratory birds and collect their eggs for seasonal subsistence use); ANILCA, 16 U.S.C. § 3114 (establishing subsistence preference for fish and wildlife uses on public lands).

[32] *See, e.g.*, ACIA report, *supra* note 8, at 94.

[33] *Id.* at 94.

[34] *Id.* at 94.

[35] *Id.*

[36] Sheila Watt-Cloutier *et al.*, *Responding to Global Climate Change, supra* note 8 at 59 (World Wildlife Fund 2005).

[37] Hinzman *et al.*, *supra* note 12, at 286.

[38] *Id.*

In the Pribilof Islands, villagers blame global warming and industrial contaminants for the decline of 20 species, ranging from kelp to sea lions.[39]

Climate change may be reducing salmon populations in Alaska.[40] Salmon and other fish make up 60 percent of Alaska Natives' subsistence resources.[41] Recent declines in fish populations directly affect the dietary and economic well-being of these people. In short, global warming is rearranging the environment upon which Alaska Natives depend to survive:

> The weather seems less stable and predictable. From sources of indigenous knowledge across the Arctic come reports that the weather seems more variable, unfamiliar, and is behaving unexpectedly and outside the norm. Experienced hunters and elders who could predict the weather using traditional techniques are now frequently unable to do so. Storms often occur without warning. Wind direction changes suddenly. In many places it is increasingly cloudy. Storms bringing high winds and lightning occur with increasing frequency in some locations. As noted by several elders, "the weather is harder to know." This presents problems for many activities, from hunting to drying fish, on which Indigenous Peoples depend.[42]

A. Global Warming Threatens Alaska Natives' Existence.

"The practice of coming out here and being on the land and hunting caribou is not only about feeding our families, because it is all we have to survive from. We don't have Safeways and Wal-Marts and stuff like that in

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[39] Margot Roosevelt, *Vanishing Alaska,* Time, Sept. 27, 2004, 68-70.

[40] Bruce P. Finney, *et al., Impacts of Climatic Change and Fishing on Pacific Salmon Abundance Over the Past 300 Years,* 290 Science 795, 797 (2000).

[41] ACIA report, *supra* note 8, at 119.

[42] ACIA report, *supra* note 8, at 96.

our tribes. But it's also about maintaining our culture and our spiritual relationship with these animals that we've had for time immemorial." — Evon Peter, Arctic Village, Alaska[43]

The continuation of the opportunity for rural residents in Alaska to engage in subsistence activities is essential to Native physical, economic, traditional and cultural existence.[44] The situation in Alaska is unique because, in most cases, no practical alternative means exists to replace food supplies and other items gathered from the fish and wildlife that supply rural residents dependent on subsistence activities.[45]

"[Fifty] percent of the food for three-quarters of the Native families in Alaska's small and medium villages is acquired through subsistence uses, and 40 percent of such families spend an average of six to seven months of the year in subsistence activities."[46]

1. Thinning and Receding Sea Ice Reduces Subsistence Resources on Arctic Coasts

"It looks like winter out there, but if you've really been around a long time like me, it's not winter. . . . If you travel that ice, it's not the ice that we traveled 40 years ago." — Orville Huntington, Alaska Native Science Commission.[47]

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[43] Evon Peter, *The People and the Caribou Are One, Voices from the Earth* (Spring 2005), *available at* http://www.sric.org/voices/2005/v6n1/caribou.html.

[44] ANILCA § 801(1), 16 U.S.C. § 3111.

[45] ANILCA § 801(2), 16 U.S.C. § 3111.

[46] *Native Village of Quinhagak v. Lujan*, 35 F.3d 388, 389-90 (9th Cir. 1994) (citing H.R. Rep. No. 1045, 95th Cong., 2d Sess., at 181 (1978)).

[47] Yereth Rosen, *Warming Climate Disrupts Alaska Natives' Lives*, Reuters, April 16, 2004, *available at* http://www.cnr.vt.edu/lsg/intro/global%20warmimg%20-%20alaska.pdf.

In the Arctic, sea ice is one of the most important factors influencing climate.[48] Changes in sea ice have enormous environmental, economic, and societal implications.[49] The Arctic is rapidly losing its permanent sea ice.[50] Within a century, the Arctic Ocean may have ice-free summers.[51]

The Arctic also exerts control over the global climate.[52] Much as a spillway in a dam controls the level of a reservoir, polar regions control the Earth's heat balance.[53] As the Arctic sea ice melts and shrinks, it reflects less sunlight and the dark, open ocean absorbs more heat, eventually warming the entire planet.[54]

As a result of the melting of sea ice, and a corresponding diminishing of snow cover on land, the far northern regions of North America, including Alaska, are exceeding global mean warming by about 40 percent.[55] This is due to a natural phenomenon known as poleward amplification: as the ice cover decreases, the oceans and land absorb more of the sun's energy, creating a positive feedback that in turn significantly increases warming in high latitudes.[56]

Scientists also warn that the melting of the polar ice sheets could have dire consequences.[57] If the current pace of melting continues, the seas will rise 10 or more meters,

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[48] *Id.*

[49] *Id.*

[50] J.T. Overpeck *et al.*, *Arctic System on Trajectory to New, Seasonally Ice-Free State*, 86 *EOS* 312 (2005).

[51] *Id.* at 309.

[52] Matthew Sturm *et al.*, *Meltdown in the North*, *Scientific American* 62 (Oct. 2003)

[53] *Id.*

[54] *Id.*

[55] IPCC, *Third Assessment Report: The Scientific Basis*, Contribution of Working Group I, *supra* note 13, Summary for Policymakers, at 13.

[56] *See* IPCC, *Third Assessment Report: The Scientific Basis*, Contribution of Working Group I, *supra* note 13, Technical Summary at 50.

[57] Jonathan M. Gregory *et al.*, *Threatened Loss of the Greenland Ice Sheet*, 428 Nature 616 (2004).

flooding areas inhabited by 25 percent of the U.S. population.[58] The Gulf and East Coast states will experience the brunt of the impacts.[59]

In the Arctic, this melting likely will have devastating consequences for polar bears, ice-dependent seals, walrus, and the Alaska Natives for whom these animals are a primary food source.[60] Sea ice supports an important food web of fish, seabirds, and marine mammals.[61] Phytoplankton blooms at the ice edge feed prolific arctic cod, which in turn feed beluga whales, narwhal whales, and harp seals.[62] Polar bears, walrus, and ringed seals use the ice for transportation and as a "floating platform for resting, feeding, and producing their young."[63]

The Inupiat and Yupik of Alaska's Arctic regions know and rely on this sea ice environment, traveling on the ice extensively in search of walrus, bowhead whales, and seals.[64] Caleb Pungowiyi of Nome recounted the importance of stable ice conditions:

> Ice is a supporter of life. It brings the sea animals from the North into our area and in the fall it also becomes an

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[58] U.S. Geological Service, *Sea Level and Climate*, *available at* http://pubs.usgs.gov/fs/fs2-00/.

[59] *Id.*

[60] ACIA report, *supra* note 8, at 8.

[61] U.S. Dept. of Interior, *Outer Continental Shelf Oil & Gas Leasing Program: 2002–2007 Final Environmental Impact Statement*, at 4-7 (April 2002).

[62] Nat'l Res. Council, Nat'l Academy of Sciences, *Cumulative Environmental Effects of Oil & Gas Activities on Alaska's North Slope*, at 92 (National Academies Press 2003).

[63] Margie A. Gibson & Sallie B. Schullinger, *Answers from the Ice Edge*, 8 (Arctic Network & Greenpeace U.S.A. 1998), *available at* http://archive.greenpeace.org/climate/arctic/reports/testimonies.pdf.

[64] Don Weller, *Effects of Climate Change on Subsistence Communities in Alaska, Assessing the Consequences of Climate Change for Alaska and the Bering Sea Region: Proceedings of a Workshop at the University of Alaska Fairbanks* 66 (Nov. 1999).

> extension of our land. When it freezes along the shore, we go out on the ice to fish, to hunt marine mammals and to travel. . . . When it starts disintegrating and disappearing faster it affects our lives dramatically.[65]

Many Arctic communities depend on hunting polar bear, walrus, seals, whales, seabirds and other marine animals.[66] The thinning and retreating sea ice also makes it dangerous to hunt walruses, seals and whales.[67] In 1998, whalers from the village of Wainwright had to be rescued after the ice floe they were on broke up and drifted out to sea.[68]

The thinning and receding of sea ice also is decimating subsistence resources:

> Gathering food directly from the land and the sea makes the Yupik very careful observers of their surroundings. In recent years, they have noticed that the walrus are thinner, their blubber less nutritious and oil from walrus fat does not burn as bright in their lamps as in times of old. At the same time, they have noticed that there are fewer and weaker seals. The Yupik hunters have had to go farther and farther from shore to reach the ice pack to find the newborn seals that are being fed fish from nearby waters by their parents.[69]

As large-scale warming has reduced the extent of ice upon which seals and walrus rest between searches for food, these key marine mammals become weakened and less productive, providing less sustenance for Native

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[65] ACIA report, *supra* note 8, at 24.

[66] *Id.* at 61.

[67] Jim Motavalli, *Feeling the Heat: Dispatches from the Frontlines of Climate Change* 108, Routledge (2004).

[68] *Id.*

[69] Nat'l Assessment Synthesis Team, U.S. Global Change Res. Program, *Climate Change Impacts on the United States: The Potential Consequences of Climate Variability and Change* 366, (2000) (citing D.A. Rothrock *et al.*, *Thinning of the Arctic Sea-Ice Cover*, 26 *Geophysical Research Letters* 3469 (1999)).

communities.[70] Ice dependent seals, including the ringed seal, ribbon seal, and bearded seal, are particularly vulnerable because they give birth and nurse their pups on the ice.[71] They also forage near the ice edge, an extremely productive area especially sensitive to climate change.[72] As the ice melts, seal and walrus populations will decline.[73]

2. Melting Permafrost Diminishes Subsistence Resources

Permafrost is subsurface material that remains continuously frozen for at least two consecutive years.[74] The permafrost regions occupy approximately 24 percent of the Northern Hemisphere's terrestrial surface.[75] As the climate differentially warms in summer and winter, the active layer (the soil layer above permafrost that annually freezes and thaws) will thicken.[76]

Thickening of the active layer has two immediate effects.[77] First, decomposed plant material frozen in the upper permafrost thaws, exposing the carbon to microbial decomposition, which can release CO_2 and methane (CH_4) to the atmosphere.[78] These Greenhouse gas releaseses may be considerable.[79]

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[70] Nancy G. Maynard, *Final Report: Native Peoples-Native Homelands Climate Change Workshop* 62 (1998) (citations omitted).

[71] ACIA report, *supra* note 8, at 59.

[72] *Id.*

[73] *Id.*

[74] U.S. Arctic Research Comm'n, *Climate Change, Permafrost, and Impacts on Civil Infrastructure*, 3 (2003), *available at* http://www.arctic.gov/publications.htm

[75] *Id.* at 5.

[76] U.S. Arctic Research Comm'n, *The Arctic Ocean and Climate Change: A Scenario For The U.S. Navy*, 10 (2002) *available at* http://www.arctic.gov/publications.htm

[77] U.S. Arctic Research Comm'n, *Climate Change, Permafrost, and Impacts on Civil Infrastructure, supra* note 74, at 7.

[78] *Id.* at 8. Because considerable quantities of carbon are sequestered in the upper layers of permafrost, a widespread increase in the thickness of

Second, the ice in the upper permafrost is converted to water.[80] When ice-rich permafrost thaws, the surface subsides.[81] Typically, this settling does not occur uniformly over space, but produces a chaotic surface with small hills and wet depressions known as thermokarst terrain.[82] When thermokarst occurs beneath a road, house, pipeline, or airfield, it can compromise their structural integrity and lead to collapse.[83] With regional warming, large areas may subside and areas near the coast may be inundated by encroaching seas.[84]

Global warming will likely trigger a new episode of widespread thermokarst, with serious consequences for most of the engineered works constructed in the Arctic during the twentieth century.[85] Already, melting permafrost has created underground voids that collapse into sinkholes in northern areas, such as the city of Fairbanks, has toppled spruce trees, and has rippled pavement and bike trails.[86] Homes and buildings will sag into ruin.[87]

Elsewhere, entire forests appear to be sinking or

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the thawed layer could lead to the release of large quantities of CO_2 and CH_4 to the atmosphere. *Id.* (citations omitted). This in turn would create a positive feedback mechanism that could amplify regional and global warming. *Id.*

[79] David M. Lawrence and Andrew G. Slater, *A Projection of Severe Near-Surface Permafrost Degradation During the 21st Century*, 32 Geophysical Research Letters L24401 (Dec. 17, 2005).

[80] *Id.*

[81] *Id.*

[82] *Id.*

[83] *Id.*

[84] *Id.*

[85] *Id.* at 13-14.

[86] Doug O'Hara, *Permafrost is Warming*, Anchorage Daily News, at A1 (Aug. 14, 2005).

[87] *Id.*

drowning as melting permafrost forces water upward.[88] Alaskans call the phenomenon "drunken trees."[89]

3. Warming Threatens Caribou, a Key Food Source

> *"Sometimes when they're supposed to show up, they don't show up. Sometimes they show up when they're not supposed to show up. . . . We've got 15 villages in Northeast Alaska and North Yukon Territory, and some in Northwest Territory, where the same people are depending on one caribou herd. We're caribou people . . . and we all depend on that same herd that migrates through our villages."* — Sarah James, Arctic Village, Alaska[90]

Native peoples in more than 25 villages — more than 5,000 households — in northwestern Alaska depend on the caribou for subsistence.[91] Caribou are prominent in Alaska Native mythology, spirituality and cultural identity.[92]

Anthropogenic warming is projected to reduce the traditional forage for caribou herds, which in turn could lead to reduction in herd size.[93] Caribou depend on the availability of abundant tundra vegetation and good foraging conditions, especially during the calving season.[94] Vegetation changes caused by climate change, along with rising sea levels, are projected to shrink the tundra area to its lowest extent in the past 21,000 years, greatly reducing

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[88] Timothy Egan, *Alaska, No Longer So Frigid, Starts to Crack, Burn and Sag*, N.Y. Times, §1 at 1 (June 16, 2002).

[89] *Id.*

[90] ACIA report, *supra* note 8, at 73.

[91] U.S. Geological Service, *Status and Trends of the Nation's Biological Resources, Part 2* (Alaska), *available at* http://biology.usgs.gov/s+t/SNT/noframe/ak177.htm (hereinafter "USGS report").

[92] ACIA report, *supra* note 8, at 71.

[93] *Id.*

[94] *Id.* at 70.

breeding areas for many birds and grazing areas for land animals.[95]

Freeze-thaw cycles and freezing rain are also projected to increase.[96] Ice crust formation from freeze-thaw events affects most Arctic land animals by encapsulating their food plants in ice, severely limiting forage availability and sometimes killing the plants.[97] This freeze-thaw effect has caused caribou populations to crash dramatically and more frequently.[98] As the caribou herds face increasing trouble, communities that rely on them for subsistence are forced to reduce their harvest to ensure the sustainability of the herds.

B. Global Warming Is Endangering the Health and Safety of Alaska Natives

> *"The storms are getting more frequent, the winds are getting stronger, the water is getting higher and it's noticeable to everyone in town. If we get 12 to 14 foot waves, this place is going to get wiped out in a matter of hours. We're in panic mode because of how much ground we're losing. If our airport gets flooded out, there goes our evacuation by plane."* — Robert Iyatunguk, erosion coordinator for Shishmaref[99]

The effects of global warming have created health, safety, and security problems for Alaska Native communities. For example, the thinning and receding sea ice make subsistence hunts more dangerous. People are forced to travel farther across rough, open seas to reach the ice where the animals are found. These trips are more dangerous and costly.[100] When they reach the ice, it is unreliable and pieces often break off and float away in the

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[95] *Id.* at 46.

[96] *Id.* at 70.

[97] *Id.* at 68.

[98] *Id.* at 69.

[99] *Id.* at 80.

[100] Joseph B. Verrengia, *In Alaska, an Ancestral Island Home Falls Victim to Global Warming*, Associated Press (Sept. 10, 2002).

midst of a hunt. In 2002, more than 100 stranded hunters had to be rescued when the ice on which they were hunting drifted far from shore.[101]

Melting permafrost also threatens the security of Arctic communities. Permafrost stabilizes the ground, buttressing shorelines against fierce Arctic storms.[102] As the permafrost warms and thaws, that buffer dissolves and shorelines erode.[103] This effect is compounded by the retreat of the sea ice, which no longer provides a calming influence on the often rough seas.[104]

In Shishmaref, for example, retreating sea ice and thawing permafrost have exposed the village to erosion from Arctic storms, which are fiercer and more frequent than in the past.[105] In this village, which sits on a narrow barrier island on the Chukchi Sea, several homes have fallen over a bluff and others teeter on its edge. The 600 village residents have watched one end of their village being eaten away, losing as much as 15 meters of land overnight in one storm.[106] In the past 30 years, 100 to 300 feet of coastline has washed away, half of it since 1997.[107]

The absence of sea ice also deprives the residents of their route of travel to the mainland to hunt moose and caribou as they normally would do by early November.[108] Now, that waterway is ice free in autumn.[109]

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[101] *Id.*

[102] Orson P. Smith, & George Levasseur, *Impacts of Climate Change on Transportation Infrastructure in Alaska, The Potential Impacts of Climate Change on Transportation, Part II, Regional Case Studies* 6 (U.S. Dep't of Transportation 2001).

[103] *Id.* at 5-6.

[104] *Id.* at 7; ACIA report, *supra* note 8, at 80.

[105] ACIA report, *supra* note 8, at 80.

[106] *Id.*

[107] Roosevelt, *supra* note 38.

[108] ACIA report, *supra* note 8, at 80.

[109] *Id.*

Shishmaref is not an anomaly. At Point Hope, a bowhead-whaling village that dates from 600 B.C., flooding seawater threatens the airport runway and a seven-mile evacuation road. [110] "During storms, some people begin to panic," town official Rex Rock told *Time*.[111]

An investigation by the General Accounting Office, an investigative arm of Congress, found that 184 out of 213 (86.4 percent) Alaska Native villages experience some level of flooding and erosion.[112] The GAO report stated that:

> Native villages on the coast or along rivers are subject to both annual and episodic flooding and erosion. Various studies and reports indicate that coastal villages in Alaska are becoming more susceptible to flooding and erosion in part because rising temperatures cause protective shore ice to form later in the year, leaving the villages vulnerable to fall storms. . . . In addition, villages in low-lying areas along riverbanks or in river deltas are susceptible to flooding and erosion caused by ice jams, snow and glacial melts, rising sea levels, and heavy rainfall.[113]

The cost of relocating these villages will be high.[114] For example, Shishmaref residents voted to leave the community their families have inhabited for the past 4,000 years and move to a site twelve miles away.[115] Unfortunately, they lack the many millions of dollars such a move would cost.[116] For now, Shishmaref and three other Alaska Native villages the Federal Government has found to be in "imminent

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[110] Roosevelt, *supra* note 38.

[111] *Id.*

[112] U.S. General Accounting Office, *Alaska Native Villages: Most Are Affected by Flooding and Erosion, But Few Qualify for Federal Assistance*, 2-3 (December 2003) (hereinafter "GAO report").

[113] *Id.* at 3.

[114] *Id.*

[115] ACIA report, *supra* note 8, at 80; Roosevelt, *supra* note 38.

[116] Verrengia, *supra* note 100, at 5.

danger" will remain where they are, exposed to the consequences of global warming.[117]

III. Conclusion

As a result of global warming, the changes occurring in Alaska are among the most dramatic on Earth, even though the vast majority of the world's greenhouse gas emissions originate elsewhere. This dramatic destruction of the Arctic is an early warning for the rest of the world of the devastation that will likely occur if industrialized nations and the industries that drive them fail to significantly curb their emissions of greenhouse gases. The longer the Federal Government delays regulation of greenhouse gases, the more severe and long lasting the effects of global warming are certain to be.

Reducing greenhouse gas emissions from automobiles is a critical first step toward ensuring the survival of Alaska's Native communities. Thus, *amici* urge this Court to grant the Petition for Certiorari.

Respectfully submitted,

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[117] Roosevelt, *supra* note 38; GAO report, *supra* note 112, at 4.

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In the Supreme Court of the United States

COMMONWEALTH OF MASSACHUSETTS, *et al.*,
Petitioners,

v.

U.S. ENVIRONMENTAL PROTECTION AGENCY, *et al.*,
Respondents.

On Petition of Writ of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

BRIEF OF *AMICI CURIAE* CLIMATE SCIENTISTS DAVID BATTISTI, CHRISTOPHER FIELD, INEZ FUNG, JAMES E. HANSEN, JOHN HARTE, EUGENIA KALNAY, DANIEL KIRK-DAVIDOFF, JAMES C. MCWILLIAMS, JONATHAN T. OVERPECK, F. SHERWOOD ROWLAND, JOELLEN RUSSELL, SCOTT R. SALESKA, JOHN M. WALLACE, AND STEVEN C. WOFSY IN SUPPORT OF PETITIONER

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INTEREST OF THE *AMICI CURIAE*[1]

Amici Curiae Climate Scientists are David Battisti, Christopher Field, Inez Fung, James E. Hansen, John Harte, Eugenia Kalnay, Daniel Kirk-Davidoff, James C. McWilliams, Jonathan T. Overpeck, F. Sherwood Rowland, Joellen L. Russell, Scott R. Saleska, John M. Wallace, and Steven C. Wofsy (hereinafter "Climate Scientists").[2] The Climate Scientists are individual climate scientists who are actively involved in research on changes to the Earth's climate that are being caused by anthropogenic emissions of carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, hydrofluorocarbons, and perfluorocarbons ("greenhouse gases" or "GHGs") and the effects of those changes. Most of these scientists are members of the National Academy of Sciences ("NAS")[3] or Engineering, or have served on one or both of two recent National Academy of Sciences/National Research Council ("NAS/NRC") panels that have reviewed the state of the science on climate change and the impacts of human activities on climate.[4] The NRC, the Academy's principal

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[1] All parties have consented to the filing of this brief. Pursuant to this Court's Rule 37.6, *Amici* state that no counsel for any party in this case authored this brief or the appended Statement in whole or in part, and no person other than *Amici* and their counsel have made a monetary contribution to the preparation and submission of this brief or the appended Statement.

[2] The Climate Scientists are appearing in their individual capacity and not as representatives of any institution with which any of them is affiliated.

[3] "The National Academy of Sciences ("NAS") is a private, nonprofit, self-perpetuating society of distinguished scholars engaged in scientific and engineering research, dedicated to the furtherance of science and technology and to their use for the general welfare. Upon the authority of a charter granted to it in 1863, the Academy has a mandate that requires it to advise the federal government on scientific and technical matters." NATIONAL RESEARCH COUNCIL, CLIMATE CHANGE SCIENCE: AN ANALYSIS OF SOME KEY QUESTIONS (2001) ["CLIMATE CHANGE SCIENCE" or "2001 NAS/NRC Report"], Preface.

[4] *Id.*; COMMITTEE ON ABRUPT CLIMATE CHANGE, NATIONAL RESEARCH COUNCIL, ABRUPT CLIMATE CHANGE: INEVITABLE SURPRISES (2002.)

operating arm, was formed in 1916 to further scientific and technological knowledge and to advise the federal government. NATIONAL RESEARCH COUNCIL, CLIMATE CHANGE SCIENCE: AN ANALYSIS OF SOME OF THE KEY QUESTIONS, preface (2001). *Amicus* David Battisti is the Tamaki Professor of Atmospheric Sciences at the University of Washington. He has a Ph.D. from the University of Washington in the field of atmospheric sciences. He has been involved in the field of climate dynamics and climate change since 1984 and his research involves climate variability (El Nino, drought in the Sahel, decadal variability in the climate system), paleoclimate (abrupt climate change during the last glacial period), and climate change. He served for three years on the NAS Committee for Climate Research and for six years was co-chair of the United States Climate Variability and Predictability Science Steering Committee.

Amicus Christopher Field is the founding director of the Department of Global Ecology of the Carnegie Institution of Washington and Professor of Biological Sciences at Stanford University. He has a Ph.D. from Stanford University in the field of biological sciences. He has been involved in the study of climate change impacts and the global carbon cycle since 1988. He is a member of the National Academy of Science.

Amicus Inez Fung is Professor of Atmospheric Science and Co-Director of the Berkeley Institute of the Environment at the University of California at Berkeley. Dr. Fung received her Sc.D. from the Massachusetts Institute of Technology. Her research expertise is in large-scale numerical modeling of biogeochemical cycles and their interaction with climate. Her research also includes climate change, remote sensing of earth systems, investigations of atmosphere-ocean interactions, and atmosphere-biosphere interactions. She is a member of the National Academy of Sciences and served on the National Research Council's Committee on Climate Change Science

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["ABRUPT CLIMATE CHANGE" or "2002 NAS/NRC Report"].

that reviewed the state of climate science for President Bush and produced the 2001 NAS/NRC Report.[5]

Amicus James E. Hansen is head of the NASA Goddard Institute for Space Studies. Dr. Hansen received his Ph.D. from the University of Iowa. His research interests include radiative transfer in planetary atmospheres, development of global climate models, current climate trends from observational data, and projections of man's impact on climate. He is a member of the National Academy of Sciences and served on the National Research Council's Committee on Climate Change Science that reviewed the state of climate science for President Bush and produced the 2001 NAS/NRC Report.[6]

Amicus John Harte is a Professor in the Energy and Resources Group and the Ecosystem Sciences Division of the College of Natural Resources at the University of California at Berkeley. He received a B.A, in physics from Harvard University in 1961 and a Ph.D. in theoretical physics from the University of Wisconsin in 1965. He has been involved in the study of earth system science since 1973 and his research currently focuses on the ecological consequences of climate change and the climate consequences of ecological changes. He has served on six different panels of the National Academy of Sciences/National Research Council.

Amicus Eugenia Kalnay is a Distinguished University Professor at the University of Maryland. Previously she was Director of the Environmental Modeling Center at the National Weather Service and Head of the Global Modeling Branch at the NASA Goddard Space Flight Center. She has a Ph.D. in meteorology from MIT. Her research expertise is in numerical modeling of the atmosphere, data assimilation and predictability, El Nino prediction, and applications of satellite remote measurements to weather and climate problems. She is a

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[5] CLIMATE CHANGE SCIENCE, *supra*, note 3.

[6] *Id.*

member of the National Academy of Engineering, and has served on many panels of the National Academy of Sciences/National Research Council.

Amicus Daniel Kirk-Davidoff is an Assistant Professor in the Department of Meteorology at the University of Maryland. He received a Ph.D. in Meteorology from the Massachusetts Institute of Technology in 1997. He is a climate dynamicist with interests in the stratospheric water vapor budget, paleoclimate modeling, satellite climate monitoring, and the use of satellite data to improve climate models.

Amicus James C. McWilliams is the Louis Slichter Professor of Earth Sciences at University of California, Los Angeles. He has a Ph.D. from Harvard University in the field of applied mathematics. He has been involved in the study of oceanic and atmospheric circulations and climate since 1970. He is a member of the National Academy of Sciences and a Fellow of the American Geophysical Union. He served on the National Research Council's Committee on Climate Change Science that reviewed the state of climate science for President Bush and produced the 2001 NAS/NRC Report.[7]

Amicus Jonathan T. Overpeck is a Professor of Geosciences and a Professor of Atmospheric Sciences at the University of Arizona. He has a Ph.D. from Brown University in the field of geological sciences. He has been involved in the study of climate science since 1979. His research focuses on using models and the climate record of the past million years to understand climate variability and future change. He has served on the NAS/NRC Committee on Abrupt Climate Change.[8]

Amicus Prof. F. Sherwood Rowland is the Bren Research Professor of Chemistry and Earth System Science at the University of California Irvine. He has a Ph.D. in Chemistry from the University of Chicago in the field of Physical Chemistry. He has been involved in the study of

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[7] *Id.*

[8] ABRUPT CLIMATE CHANGE, *supra*, note 4.

the atmosphere since 1973, and received the 1995 Nobel Prize in Chemistry (with Mario Molina and Paul Crutzen) for his "work on atmospheric chemistry, particularly concerning the formation and decomposition of ozone." He is a member of the National Academy of Sciences, and received the Roger Revelle Medal of the American Geophysical Union. He is a member of the Board on Atmospheric Sciences and Climate of the National Research Council, and served on the National Research Council's Committee on Climate Change Science that reviewed the state of climate science for President Bush and produced the 2001 NAS/NRC Report.[9]

Amicus Joellen L. Russell is an Assistant Professor of Geosciences at the University of Arizona. She received her B.A. in Environmental Geoscience from the Department of Earth and Planetary Sciences at Harvard University in 1993, and her Ph.D. in Oceanography from the Scripps Institution of Oceanography at the University of California, San Diego, in 1999. Her research focuses on biogeochemical dynamics, the interactions between the biological, geological and chemical components of Earth's environment.

Amicus Scott R. Saleska is an Assistant Professor of Ecology and Evolutionary Biology at the University of Arizona. He received a B.S. in Physics from the Massachusetts Institute of Technology in 1986 and a Ph.D. in Energy and Resources from the University of California at Berkeley in 1998. His research focuses on how climate interacts with plant physiology, demography, and ecological processes to influence or control biogeochemical cycling from local to global scales.

Amicus John M. Wallace is a Professor in the Department of Atmospheric Sciences at the University of Washington. He has a Ph.D. from the Massachusetts Institute of Technology in the field of meteorology. He has been involved in the study of climate variability and change since 1980 and his research involves El Nino and

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[9] CLIMATE CHANGE SCIENCE, *supra*, note 3.

other patterns of climate variability. He served on the National Research Council's Committee on Climate Change Science that reviewed the state of climate science for President Bush and produced the 2001 NAS/NRC Report.[10] He is a member of the National Academy of Sciences and served on the NAS/NRC Committee on Abrupt Climate Change: Science and Public Policy.[11]

Amicus Steven C. Wofsy is the Abbott Lawrence Rotch Professor of Atmospheric and Environmental Science at Harvard University. He has been involved in the study of atmospheric science since 1971 and his research focuses on climate and the global carbon cycle. He serves on many scientific advisory groups of the federal government.

Amici curiae Climate Scientists are concerned about the possible, likely and virtually certain impacts on the Earth's climate from manmade emissions of GHGs. They are also concerned about the legal interpretation of concerns about scientific uncertainty on this issue and the misinterpretation of relevant scientific conclusions in the decision below.

The Climate Scientists submit the attached Statement (Appendix) and this brief to assist this Court in understanding the nature and extent of scientific uncertainty related to human induced climate change. *Amici Curiae* support the position of petitioners and urge that this Court grant *certiorari* to review the decision of the Court of Appeals for the District of Columbia.

SUMMARY OF ARGUMENT

The Court should grant *certiorari* to review the decision of the Court of Appeals on the issue of global climate change--a matter of great importance under both the Clean Air Act and a treaty to which the United States is a party. As the appended Statement by the Climate Scientists demonstrates, the Earth's climate is changing in ways that

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[10] CLIMATE CHANGE SCIENCE, *supra* note 3.

[11] ABRUPT CLIMATE CHANGE, *supra* note 4.

are significantly increasing the risk of adverse impacts on public welfare. Time is of the essence because delay in greenhouse gas regulation will only accelerate global climate change. EPA must begin regulating greenhouse gas emissions from motor vehicles now to slow climate change in time to reduce the risk of adverse impacts.

This Court should also grant *certiorari* because the Court of Appeals ignored this Court's decisions directing a reviewing court to conduct a searching inquiry of the facts upon which the agency relied, and directing that reviewing courts not simply accept the agency's invocation of scientific or technical uncertainty as the basis for their decision. The Court of Appeals assumed that EPA has the statutory authority to regulate greenhouse gas emissions from motor vehicles, but decided that EPA had properly exercised its discretion in refusing to regulate those emissions. The Court of Appeals decision, however, simply summarized the areas of lesser certainty without even discussing areas of greater certainty. Contrary to the understanding of the Court of Appeals, there is reasonable scientific certainty that emissions of carbon dioxide and other greenhouse gases from mobile sources and other anthropogenic sources have already had an effect on the Earth's climate and will continue to affect climate in the future.

In addition, the Court of Appeals ignored this Court's decisions requiring agencies to follow the plain language of their statutory delegation, and prohibiting agencies from adding factors not enumerated in the statute.. In so doing, the Court of Appeals ignored the plain language of Section 202(a)(1) of the Clean Air Act, 42 U.S.C. § 7521(a)(1), allowed EPA to consider factors that are not contained in the statute, and seriously devalued the scientific advice that the government had requested in the first place. This Court should grant *certiorari* to require EPA to make a decision based on the plain language of Section 202(a)(1) and based on the science that the government requested from the National Academy of Sciences. This conclusion is reinforced by Article 3,

paragraph 3, of the United Nations Framework Convention on Climate Change, U.N. Doc. A/AC 237/18 (1992), *reprinted in* 31 I.L.M. 849 (1992) [UNFCCC], which the United States has ratified, and which directs parties not to employ "lack of full scientific certainty" as a reason to postpone measures to address climate change.

ARGUMENT

THE COURT SHOULD GRANT CERTIORARI TO REQUIRE EPA TO FOLLOW THE CLEAN AIR ACT AND SETTLE A GLOBALLY SIGNIFICANT ISSUE REGARDING THE IMPACT OF GREENHOUSE GASES ON THE EARTH'S ENVIRONMENT.

I. The Court of Appeals Ignored Reasonable Scientific Certainty That Emissions of Carbon Dioxide and Other Greenhouse Gases from Mobile Sources and Other Anthropogenic Sources Have Already Had an Effect on the Earth's Climate and Will Continue to Affect Climate in the Future.

A consensus of scientists now working on climate change holds that it is likely that emissions of carbon dioxide and other greenhouse gases from mobile sources and other anthropogenic sources have already had an effect on the earth's climate and are changing the Earth's climate in ways that are significantly increasing the risk of adverse impacts on public welfare. That consensus was contained in the 2001 NAS/NRC report that the federal government requested to provide the Bush Administration with an assessment of the areas of greater and lesser certainty in climate change science.[12] EPA said: "We rely in this decision on NRC's objective and independent assessment of the relevant science." 68 Fed. Reg. 52,922, 52,930 (Sept. 8, 2003) (adding that nothing received during

[12] Letter from John M. Bridgeland and Gary Edson to Bruce Alberts (May 11, 2001), reprinted in *id.* at 27.

the public comment period "causes us to question the validity of the NRC's conclusions").

In its decision upholding EPA, however, the Court of Appeals significantly misrepresented the findings of the 2001 NAS/NRC Report by emphasizing uncertainties in climate change science while failing even to mention the existence of fundamental areas of certainty or consensus. *Massachusetts v. EPA*, 415 F.3d. 50, 57 (D.C. Cir. 2005). The Court then used scientific uncertainty (which it had misrepresented) as a basis for upholding EPA's decision. *Id.* at 58. As this Court has made clear, however, reviewing courts are obliged to conduct a "searching and careful" review of the facts to determine whether "there has been a clear error of judgment," *Citizens to Preserve Overton Park v. Volpe*, 401 U.S. 402, 416 (1971), and to determine, even in cases of scientific or technical uncertainty, whether the agency has adequately explained the available evidence and offered a "rational connection between the facts found and the choice made." *Motor Vehicle Manufacturers Ass'n v. State Farm Mutual Automobile Ins. Co.*, 463 U.S. 29, 43 (1983), *citing Burlington Truck Lines, Inc. v. United States*, 371 U.S. 156, 168 (1962). By not conducting that kind of review of EPA's decision, the Court of Appeals decision so departs from this Court's decisions as to warrant a grant of *certiorari* .

To provide this Court with an understanding of the areas of greater and lesser certainty, the Climate Scientists (including many of the authors of the Report cited by EPA and the Appeals Court) state the following:[13]

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[13] The *Amici* Climate Scientists characterize scientific uncertainties using the same system employed by the Intergovernmental Panel on Climate Change. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE ("IPCC"), CLIMATE CHANGE 2001: THE SCIENTIFIC BASIS 2 fn. 7 (2001): "'the following words have been used where appropriate to indicate judgmental estimates of confidence: virtually certain (greater than 99% chance that a result is true); very likely (90-99% chance); likely (66-90% chance); medium likelihood (33-66% chance); unlikely (10-33% chance); very unlikely (1-10% chance); exceptionally unlikely (less than 1% chance).'" Thus, findings that are virtually certain, very likely and likely, all meet the "more likely than not" standard and many determinations of "medium" likelihood are "more likely than not."

1. The basic physics underlying the greenhouse effect is firmly established. Two principles in particular are as certain as any phenomena in planetary sciences. First, certain atmospheric gases absorb radiation that otherwise would be lost to space (thereby making a planet with those gases in its atmosphere warmer than it would be without them). Second, greater atmospheric concentrations of greenhouse gases, all other things being equal, cause higher temperatures at the surface of a planet. The Earth is habitable for its current life forms in part because natural levels of greenhouse gases in the atmosphere warm the planet.
2. Over the last two centuries, it is virtually certain that human activities have increased the amount of greenhouse gases in the atmosphere to a level not seen in all of human experience, and likely not seen for at least 3 million years.
3. It is likely or very likely that human-induced increases in greenhouse gases are already causing global climate to change. The average global surface temperature has risen (human activities likely caused most of the approximately 0.6°C -- 1.1° F -- rise over the 20th century), global average sea level has risen (by 0.1 to 0.2 meters -- 1/3 to 2/3 feet -- over the 20th century), snow cover and ice extent in the Arctic has decreased by about 10% and 25%, respectively, since the late 1960s, and stratospheric temperatures have dropped (a virtually certain consequence of both stratospheric ozone depletion and greenhouse gas increases). A variety of other related climate factors are changing in a way that is consistent with greenhouse gas-induced planetary warming. By contrast, it is very difficult to find global scale measures of climate that indicate cooling.
4. It is virtually certain that what has been observed so far is only the beginning, and that continued greenhouse gas emissions along current trajectories will cause *additional* warming of the earth system as a

whole, and very likely that such perturbation would cause the rate of surface warming and sea level rise in the 21st century to be substantially larger and faster than that experienced in the 20th century and without precedent in the past 10,000 years.

5. Although the general link between increased greenhouse gases in the atmosphere and increased warming of the earth system is virtually certain, the complexity of the climate system means that predictions of specific details that follow from this general link are subject to varying degrees of certainty. Among the more certain future predictions are the following:

a. It is likely, based on both models and on data from the ice ages over the last 400,000 years, that if atmospheric carbon dioxide doubled from pre-industrial times, and then rose no further, the long-term warming response of global average surface temperature (the "climate sensitivity") would be in the range of 1.5° to 4.5° C (2.7° - 8.1° F).

b. In the absence of emissions reductions, however, carbon dioxide and other greenhouse gases in the atmosphere are very likely to much more than double, and the consequent rise in global average temperature during the 21st century, projected to be 2.5° to 10° C (4.5° to 18° F), will likely continue rising well beyond 2100.

c. This amount of warming is very likely to drive steady melting of arctic ice sheets and further increases in global average sea level, which is projected to reach an additional 0.1 - 0.9 meters (1/3 - 1 foot) by 2100, and to continue rising to much higher levels in the decades to millennia following 2100.

d. This amount of sea level rise, especially when combined with likely increases in hurricane intensities, would exacerbate storm surges and have negative impacts on health and welfare in the United States, and globally. These negative impacts would

be concentrated in low-lying coastal regions, such as Boston or Cape Cod, Massachusetts, the Louisiana/Mississippi Gulf coast, and southern Florida.

e. Rising temperatures are also likely to lead to increases in extreme weather events (e.g. heat waves) and altered patterns of rainfall (e.g. droughts) that will disrupt natural and agricultural ecosystems, and increase the risk of extinction of animal and plant species.

f. Ocean acidity is likely to increase by several tenths of a pH unit due to continued uptake of carbon dioxide, and this acidification is likely to cause substantial stress to key marine organisms, and hence to whole marine ecosystems, particularly in cold water regions.

6. The possibilities of the above-mentioned climate changes have been carefully and extensively assessed, and there is a broad scientific consensus that these changes are likely or very likely.[14] The exact timing of the climate change and the exact magnitude of the impact are harder to determine, because the climate system has a great deal of inertia (especially in the ice sheets and oceans), and greenhouse gases already in the atmosphere will continue to contribute to future warming. This inertia heightens the threat to human welfare because continuing unregulated greenhouse gas emissions commit us to large-scale, long-term (centuries) climate change consequences before the exact nature of those consequences can be known with greater certainty.

7. Apart from the likely, very likely, and virtually certain gradual climate changes outlined in points 4 and 5, there is also an as yet unquantifiable probability that continued greenhouse gas emissions will trigger abrupt climate change surprises that could very rapidly impose large impacts on ecosystems and

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[14] *Id.*: CLIMATE CHANGE SCIENCE, *supra* note 3.

human societies.[15] We know that such abrupt climate changes (*e.g.* large local cooling or warming, widespread droughts, shifts in hurricane intensity or flood regimes that occur in only a decade or so) are possible because they have happened in the past, before recorded human history began. Such abrupt shifts were triggered when gradual changes pushed the earth system across a threshold, abruptly switching the climate system into a new state. We do not understand these switches very well, but it is very likely that they exist within the climate system, and there is a significant but unknown risk that continued emission of greenhouse gases will trigger some kind of climate change surprise.

8. An example of surprise in global change science is the problem of stratospheric ozone depletion and the Antarctic "ozone hole." Models predicted that the emission of chlorofluorocarbons (CFCs) and other chlorinated halocarbons by human activities would gradually deplete stratospheric ozone, but no model predicted the stratospheric ozone hole in advance of its discovery in the mid-1980s. The reality of ozone depletion turned out to be worse than even the worst-case modeled scenario because none of the models anticipated the novel chemistry of ozone depletion via polar stratospheric clouds above the south (and north) poles.

II. The Court of Appeals Erred in Not Requiring EPA to Apply the "Reasonably Be Anticipated to Endanger Public Health or Welfare" Standard in Section 202(a)(1) of the Clean Air Act.

Section 202(a)(1) of the Clean Air Act provides:

The Administrator shall by regulation prescribe (and from time to time revise) in accordance with the

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[15] ABRUPT CLIMATE CHANGE, *supra* note 3.

> provisions of this section, standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, *or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.*"

42 U.S.C. § 7521(a)(1) (emphasis added). EPA's judgment under the statute extends only to the narrow questions of whether motor vehicle emissions cause or contribute to air pollution and whether such air pollution may reasonably be anticipated to endanger health or welfare. *See e.g., BedRoc Ltd., L.L.C. v. United States*, 541 U.S. 176 183 (2004) ("Thus our inquiry begins with the statutory text, and ends there as well if the text is unambiguous."). The statutory language does not contemplate the injection of other considerations.[16] *See Whitman v. American Trucking Assn.*, 531 U.S. 457, 467 (2001) (EPA is prohibited from considering factors not expressly mentioned in a statutory delegation). Congress did not authorize EPA to consider such elephantine factors as how regulation of GHGs from mobile sources "interface[s] with fuel economy standards," 68 Fed. Reg. at 52929, or differs from the President's climate change policy, *id.* at 592930. Although EPA could elect not to regulate *if* it reasonably found that emissions from motor vehicles did not contribute to the air pollution in question or *if* the agency found that, in its judgment, the air pollution could not reasonably be anticipated to have an adverse effect on welfare, neither finding was made here.

This was a serious mistake. Failure to make such findings, and to measure them against the statutory standard means that EPA, in deciding not to regulate, never properly applied the science that the 2001 NAS/NRC Report provides, and failed to carry out its

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[16] Because petitioners in this case seek a decision from this Court that the other factors upon which EPA relied were impermissible, it follows that, upon remand, EPA would be obliged to consider the climate science without reference to these other factors.

statutory obligation under section 202(a)(1). The Court should grant *certiorari* to require EPA to carry out its statutory obligation. As explained by the Climate Scientists, EPA's failure is not without significant consequence. Had EPA properly limited its discretion to the statutory standard and applied that standard to the facts of climate change science, it likely would have concluded that regulation is warranted:

> 9. Scientific knowledge is usually developed incrementally, using experiment and observation to test and prove or disprove hypotheses. To ensure that new knowledge is really knowledge and not opinion, scientific norms require a high level of certainty about the accuracy of new information. But there is no such thing as absolute certainty in climate science, just as there is no absolute certainty in medicine. Indeed, a large part of the work of science is directed at understanding and carefully quantifying such uncertainties, and accurately reporting them. Likewise, scientific uncertainty is a double-edged sword: outcomes may turn out better than our current prediction, but it is just as possible that they will turn out worse (as in the case of stratospheric ozone depletion cited in point 8). Thus, it is a mistake to infer that because a prediction of an undesirable outcome is uncertain, that the risk posed by that undesirable outcome is low.
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> 10. The absence of absolute certainty in science does not by itself provide a rational reason for avoiding policy action on a scientifically identified public risk (like global climate change), any more than the absence of absolute certainty prevents decisions or actions in other areas such as health care, financial decisions, or national security. Similarly, low probability of a potentially large harm does not by itself rationally justify inaction any more than the low probability of devastating fire rationally justifies non-purchase of home insurance policies.

11. We would not decline to regulate a likely, or very likely, cancer-causing agent being emitted into the atmosphere, and wait 20 years to observe if cancer cases begin to occur. But this appears to be the approach being taken with respect to greenhouse gas emissions. Regulated chemicals are usually believed to be likely, or very likely, carcinogens based on non-human tests and on theory, but direct tests of human harm are not required.

12. In the face of scientific uncertainty, a decision about whether to take steps to mitigate climate change cannot be a purely scientific question, but requires a standard of risk (derived from policy, economic, legal and/or political considerations) against which the scientifically determined risk or uncertainty can be compared.

13. Section 202(a)(1) of the Clean Air Act provides such a standard for comparison. In our judgment, the level of certainty is more than strong enough to conclude that greenhouse gas emissions "may reasonably be anticipated to endanger public health or welfare," based on the effects enumerated in paragraphs 1 through 7.

14. Because responsible scientific reports generally depict both the high and low ends of uncertainty ranges, it is possible to selectively quote from such reports to make the scientific findings appear either more or less certain than they actually are. We are concerned that the lead opinion of the Appeals Court in *Massachusetts v. EPA* cites the 2001 National Academy of Sciences/National Research Council (NAS/NRC) report on climate change[17] in ways that emphasize uncertainties in the details while neglecting fundamental areas of certainty or consensus, giving the impression that climate science is more uncertain than it actually is.

For example, the lead opinion of the Court of

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[17] CLIMATE CHANGE SCIENCE, *supra* note 3.

Appeals includes six citations to the 2001 NAS/NRC report, all of them presented and interpreted in a way that will likely leave a reader with the mistaken impression that the connection between greenhouse gas emissions/concentrations and climate change consequences is fundamentally uncertain. Though the NAS/NRC report also reviews many areas where the science shows that this connection is strong, these areas are not cited by the lead opinion, giving a misrepresentation of what the NAS/NRC report actually says. The lead opinion also writes that "The National Research Council [NAS/NRC] concluded that 'a causal linkage' between greenhouse gas emissions and global warming 'cannot be unequivocally established'", *id.* at 57, perhaps giving the mistaken impression that the NAS/NRC report is characterizing as fundamentally uncertain the link between greenhouse gases and warming in general.

In fact, as we (including those of us who were members of the 2001 NAS/NRC panel) emphasize above (point 1), this general link is *virtually certain*, and even the narrower linkage to which the NAS/NRC report is actually referring (between human activities and the observed 20th century warming[18]), while not "unequivocally established," was nonetheless considered "likely" by that report. To quote the NAS/NRC report's full summary statement on this question, "The changes observed over the last several decades are likely mostly due to human activities, but we cannot rule out that some significant part of these changes are also a reflection of natural variability."[19] Since publication, the evidence has only reinforced the NAS/NRC report finding that most recent climate changes are likely caused by human activities: the five warmest years since pre-industrial times were 1998, 2002, 2003, 2004, and 2005 (2005 is the

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[18] *Id.* at 17.

[19] *Id.* at 1.

warmest overall), and the reduction of ice cover in the Arctic has accelerated.

Section 202(a)(1)'s constraint on EPA's regulatory discretion is reinforced and supported by a treaty to which the United States is a party, the United Nations Framework Convention on Climate Change, which entered into force in 1994, *see* UNFCCC website at http://unfccc.int/parties_and_observers/parties/items/2228.php. In ratifying the Convention, the parties agreed not to invoke scientific uncertainty as a ground for failing to take regulatory action on greenhouse gases where there is a "threat" of serious damage:

> The Parties should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, *lack of full scientific certainty should not be used as a reason for postponing such measures*, taking into account that policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost.

United Nations Framework Convention on Climate Change, art. 3, ¶ 3 (emphasis added); *see also id.*, art. 4, ¶4(a) ("Each of these Parties [the developed nations] shall adopt national policies and take corresponding measures on the mitigation of climate change, by limiting its anthropogenic emissions of greenhouse gases and protecting and enhancing its greenhouse gas sinks and reservoirs."). Ratified treaties, along with the Constitution itself and United States laws, are "the supreme Law of the Land." U.S. CONST. art. VI, § 2. Thus, an " act of Congress ought never to be construed to violate the law of nations if any other possible construction remains . . ." *Murray v. Schooner Charming Betsy*, 6 U.S. 64, 118 (1804); *Weinberger v. Rossi*, 456 U.S. 25, 32 (1982); *Hartford Fire Ins. Co. v. California*, 509 U.S. 764, 814-15 (1993) (Scalia, J., dissenting);

Spector v. Norwegian Cruise Line, Ltd., 545 U.S. 119, ___, 125 S.Ct. 2169, 2185 (2005) (Ginsburg, J., concurring). Section 202(a)(1) thus should be construed to prevent EPA from using scientific uncertainty to delay action.

After describing scientific uncertainties concerning climate change and planned scientific work to reduce uncertainties, 68 Fed. Reg. at 52930-31, EPA explained that "establishing GHG emission standards for U.S. motor vehicles at this time would require EPA to make scientific and technical judgments without the benefit of the studies being developed to reduce uncertainties and advance technologies." *Id.* at 52930. In invoking scientific uncertainty as a ground for postponing regulation of mobile sources under section 202(a)(1) of the Clean Air Act, EPA has done what the Framework Convention directs parties not to do.

Section 202(a)(1) of the Clean Air Act, therefore, *must* be interpreted to preclude EPA's reliance on scientific uncertainty as a ground for refusing to regulate mobile emissions of greenhouse gases in the present context. The Statement by the *Amici* Climate Scientists makes it clear that the nature of scientific uncertainty regarding climate change would not, as a matter of law, warrant the deferral of regulatory action either under the clear standard in section 202(a)(1) of the Clean Air Act or the Framework Convention.

CONCLUSION

For the foregoing reasons, this Court should grant *certiorari* to review the decision of the Court of Appeals, reverse that decision and direct that the matter be remanded to EPA to make appropriate findings employing the standard for scientific uncertainty required by Section 202(a)(1) of the Clean Air Act and Article 3, paragraph 3, of the Framework Convention.

Respectfully submitted,

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May 15, 2006

Appendix

STATEMENT OF CLIMATE SCIENTISTS ON GLOBAL CLIMATE CHANGE: DAVID BATTISTI, CHRISTOPHER FIELD, INEZ FUNG, JAMES E. HANSEN, JOHN HARTE, EUGENIA KALNAY, DANIEL KIRK-DAVIDOFF, PAMELA A. MATSON, JAMES C. MCWILLIAMS, JONATHAN T. OVERPECK, JOELLEN RUSSELL, F. SHERWOOD ROWLAND, SCOTT R. SALESKA, JOHN M. WALLACE, AND STEVEN C. WOFSY

The science of global climate change has become an issue in a legal dispute about whether the U.S. Environmental Protection Agency should regulate greenhouse gas emissions from motor vehicles.[1] In particular, leading and dissenting opinions in the case now being appealed to the Supreme Court quote from a 2001 National Academy of Sciences report on Climate Change in support of their arguments.[2] As practicing scientists in fields relevant to understanding climate change, we here provide a brief summary of the state of climate change science that the Court may find useful in deciding whether to hear this case. We will address the question as to whether the current state of climate science allows us to conclude that greenhouse gas emissions "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare" Section 202(a)(1) of the Clean Air Act, or lead to "effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate." *Id.* at § 302(h).

[1] *Massachusetts v. Environmental Protection Agency*, 415 F.3d 50 (D.C. Cir. 2005).

[2] NATIONAL RESEARCH COUNCIL, CLIMATE CHANGE SCIENCE: AN ANALYSIS OF SOME KEY QUESTIONS (2001) ["CLIMATE CHANGE SCIENCE" or "2001 NAS/NRC Report"].

Climate Change Science

1. The basic physics underlying the greenhouse effect is firmly established. Two principles in particular are as certain as any phenomena in planetary sciences. First, certain atmospheric gases absorb radiation that otherwise would be lost to space (thereby making a planet with those gases in its atmosphere warmer than it would be without them). Second, greater atmospheric concentrations of greenhouse gases, all other things being equal, cause higher temperatures at the surface of a planet. The Earth is habitable for its current life forms in part because natural levels of greenhouse gases in the atmosphere warm the planet.
2. Over the last two centuries, it is virtually certain that human activities have increased the amount of greenhouse gases in the atmosphere to a level not seen in all of human experience, and likely not seen for at least 3 million years.[3]
3. It is likely or very likely that this human-induced increases in greenhouse gases are already causing global climate to change. The average global surface temperature has risen (human activities likely caused most of the approximately 0.6°C -- 1.1° F -- rise over the 20th century), global average sea level has risen (by 0.1 to 0.2 meters -- 1/3 to 2/3 feet-- over the 20th century), snow cover and ice extent in the Arctic has decreased by about 10% and 25%, respectively, since the late 1960s, and stratospheric temperatures have dropped (a virtually certain consequence of both stratospheric

[3] We here characterize scientific uncertainties using the same system as found in the Intergovernmental Panel on Climate Change Working Group 1 summaries: "the following words have been used where appropriate to indicate judgmental estimates of confidence: virtually certain (greater than 99% chance that a result is true); very likely (90-99% chance); likely (66-90% chance); medium likelihood (33-66% chance); unlikely (10-33% chance); very unlikely (1-10% chance); exceptionally unlikely (less than 1% chance)." INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2001: THE SCIENTIFIC BASIS 2 fn. 7 (2001).

ozone depletion and greenhouse gas increases). A variety of other related climate factors are changing in a way that is consistent with greenhouse gas-induced planetary warming. By contrast, it is very difficult to find global scale measures of climate that indicate cooling.

4. It is virtually certain that what has been observed so far is only the beginning, and that continued greenhouse gas emissions along current trajectories will cause *additional* warming of the earth system as a whole, and very likely that such perturbation would cause the rate of surface warming and sea level rise in the 21st century to be substantially larger and faster than that experienced in the 20th century and without precedent in the past 10,000 years.
5. Although the general link between increased greenhouse gases in the atmosphere and increased warming of the earth system is virtually certain, the complexity of the climate system means that predictions of specific details that follow from this general link are subject to varying degrees of certainty. Among the more certain future predictions are the following:
   a. It is likely, based on both models and on data from the ice ages over the last 400,000 years, that if atmospheric carbon dioxide doubled from pre-industrial times, and then rose no further, the long-term warming response of global average surface temperature (the "climate sensitivity") would be in the range of 1.5° to 4.5° C (2.7° - 8.1° F).
   b. In the absence of emissions reductions, however, carbon dioxide and other greenhouse gases in the atmosphere are very likely to much more than double, and the consequent rise in global average temperature during the 21st century, projected to be 2.5° to 10° C (4.5° to 18° F), will likely continue rising well beyond 2100.
   c. This amount of warming is very likely to drive steady melting of arctic ice sheets and further increases in global average sea level, which is

projected to reach an additional 0.1 - 0.9 meters (1/3 - 1 foot) by 2100, and to continue rising to much higher levels in the decades to millennia following 2100.

d. This amount of sea level rise, especially when combined with likely increases in hurricane intensities, would exacerbate storm surges and have negative impacts on health and welfare in the United States, and globally. These negative impacts would be concentrated in low-lying coastal regions, such as Boston or Cape Cod, Massachusetts, the Louisiana/Mississippi Gulf coast, and southern Florida.

e. Rising temperatures are also likely to lead to increases in extreme weather events (e.g. heat waves) and altered patterns of rainfall (e.g. droughts) that will disrupt natural and agricultural ecosystems, and increase the risk of extinction of animal and plant species.

f. Ocean acidity is likely to increase by several tenths of a pH unit due to continued uptake of carbon dioxide, and this acidification is likely to cause substantial stress to key marine organisms, and hence to whole marine ecosystems, particularly in cold water regions.

6. The possibilities of the above-mentioned climate changes have been carefully and extensively assessed, and there is a broad scientific consensus that these changes are likely or very likely.[4] The exact timing of the climate change and the exact magnitude of the impact are harder to determine, because the climate system has a great deal of inertia (especially in the ice sheets and oceans), and greenhouse gases already in the atmosphere will continue to contribute to future warming. This inertia heightens the threat to human welfare because continuing unregulated greenhouse gas emissions commit us to large-scale, long-term (centuries) climate change consequences before the

[4] *Id.*: CLIMATE CHANGE SCIENCE, *supra* note 2.

exact nature of those consequences can be known with greater certainty.

7. Apart from the likely, very likely, and virtually certain gradual climate changes outlined in points 4 and 5, there is also an as yet unquantifiable probability that continued greenhouse gas emissions will trigger abrupt climate change surprises that could very rapidly impose large impacts on ecosystems and human societies.[5] We know that such abrupt climate changes (e,g, large local cooling or warming, widespread droughts, shifts in hurricane intensity or flood regimes that occur in only a decade or so) are possible because they have happened in the past, before recorded human history began. Such abrupt shifts were triggered when gradual changes pushed the earth system across a threshold, abruptly switching the climate system into a new state. We do not understand these switches very well, but it is very likely that they exist within the climate system, and there is a significant but unknown risk that continued emission of greenhouse gases will trigger some kind of climate change surprise.
8. An example of surprise in global change science is the problem of stratospheric ozone depletion and the Antarctic "ozone hole." Models predicted that the emission of chlorofluorocarbons (CFCs) and other chlorinated halocarbons by human activities would gradually deplete stratospheric ozone, but no model predicted the stratospheric ozone hole in advance of its discovery in the mid-1980s. The reality of ozone depletion turned out to be worse than even the worst-case modeled scenario because none of the models anticipated the novel chemistry of ozone depletion via polar stratosphere clouds above the south (and north) poles.

<u>Decision-making in the face of Scientific Uncertainty</u>

[5] NATIONAL RESEARCH COUNCIL, ABRUPT CLIMATE CHANGE: INEVITABLE SURPRISES (2002) [ABRUPT CLIMATE CHANGE].

9. Scientific knowledge is usually developed incrementally, using experiment and observation to test and prove or disprove hypotheses. To ensure that new knowledge is really knowledge and not opinion, scientific norms require a high level of certainty about the accuracy of new information. But there is no such thing as absolute certainty in climate science, just as there is no absolute certainty in medicine. Indeed, a large part of the work of science is directed at understanding and carefully quantifying such uncertainties, and accurately reporting them. Likewise, scientific uncertainty is a double-edged sword: outcomes may turn out better than our current prediction, but it is just as possible that they will turn out worse (as in the case of stratospheric ozone depletion cited in point 8). Thus, it is a mistake to infer that because a prediction of an undesirable outcome is uncertain, that the risk posed by that undesirable outcome is low.
10. The absence of absolute certainty in science does not by itself provide a rational reason for avoiding policy action on a scientifically identified public risk (like global climate change), any more than the absence of absolute certainty prevents decisions or actions in other areas such as health care, financial decisions, or national security. Similarly, low probability of a potentially large harm does not by itself rationally justify inaction any more than the low probability of devastating fire rationally justifies non-purchase of home insurance policies.
11. We would not decline to regulate a likely, or very likely, cancer-causing agent being emitted into the atmosphere, and wait 20 years to observe if cancer cases begin to occur. But this appears to be the approach being taken with respect to greenhouse gas emissions. Regulated chemicals are usually believed to be likely, or very likely, carcinogens based on non-human tests and on theory, but direct tests of human harm are not required.

12. In the face of scientific uncertainty, a decision about whether to take steps to mitigate climate change cannot be a purely scientific question, but requires a standard of risk (derived from policy, economic, legal and/or political considerations) against which the scientifically determined risk or uncertainty can be compared.
13. Section 202(a)(1) of the Clean Air Act provides such a standard for comparison. In our judgment, the level of certainty is more than strong enough to conclude that greenhouse gas emissions "may reasonably be anticipated to endanger public health or welfare," based on the effects enumerated in paragraphs 1 through 7.
14. Because responsible scientific reports generally depict both the high and low ends of uncertainty ranges, it is possible to selectively quote from such reports to make the scientific findings appear either more or less certain than they actually are. We are concerned that the lead opinion of the Appeals Court in *Massachusetts v. EPA* cites the 2001 National Academy of Sciences/National Research Council (NAS/NRC) report on climate change[6] in ways that emphasize uncertainties in the details while neglecting fundamental areas of certainty or consensus, giving the impression that climate science is more uncertain than it actually is.

For example, the lead opinion of the Court of Appeals includes six citations to the 2001 NAS/NRC study, all of them presented and interpreted in a way that will likely leave a reader with the mistaken impression that the connection between greenhouse gas emissions/concentrations and climate change consequences is fundamentally uncertain. Though the NAS/NRC study also reviews many areas where the science shows that this connection is strong, these areas are not cited by the lead opinion, giving a misrepresentation of what the NAS/NRC report actually says. The lead opinion also writes that "The National Research Council [NAS/NRC] concluded that

[6] CLIMATE CHANGE SCIENCE, *supra* note 2.

'a causal linkage' between greenhouse gas emissions and global warming 'cannot be unequivocally established'", *id.* at 57, perhaps giving the mistaken impression that the NAS/NRC report is characterizing as fundamentally uncertain the link between greenhouse gases and warming in general.

In fact, as we (including those of us who were members of the 2001 NAS/NRC panel) emphasize above (point 1), this general link is *virtually certain*, and even the narrower linkage to which the NAS/NRC report is actually referring (between human activities and the observed 20th century warming[7]), while not "unequivocally established," was nonetheless considered "likely" by that report. To quote the NAS/NRC report's full summary statement on this question, "The changes observed over the last several decades are likely mostly due to human activities, but we cannot rule out that some significant part of these changes are also a reflection of natural variability."[8] Since publication, the evidence has only reinforced the NAS/NRC report finding that most recent climate changes are likely caused by human activities: the five warmest years since pre-industrial times were 1998, 2002, 2003, 2004, and 2005 (2005 is the warmest overall), and the reduction of ice cover in the Arctic has accelerated.

15. The authors of this Statement are David Battisti, Inez Fung, James E. Hansen, John Harte, Daniel Kirk-Davidoff, Pamela A. Matson, James C. McWilliams, Jonathan T. Overpeck, F. Sherwood Rowland, Scott R. Saleska, John M. Wallace, and Steven C. Wofsy (hereinafter "Climate Scientists").[9] The Climate Scientists are individual climate scientists who are

[7] *Id.* at 17

[8] *Id.* at 1.

[9] The Climate Scientists make this Statement in their individual capacities and not as representatives of any institution with which any of them is affiliated.

actively involved in research on changes to the Earth's climate that are being caused by anthropogenic emissions of carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, hydrofluorocarbons, and perfluorocarbons ("greenhouse gases" or "GHGs") and the effects of those changes. Many of these scientists are members of the National Academy of Sciences, and/or have served on two recent National Academy of Sciences/National Research Council ("NAS/NRC") panels that have reviewed the state of the science on climate change and the impacts of human activities on climate.[10] The NRC, the Academy's principal operating arm, was formed in 1916 to further scientific and technological knowledge and to advise the federal government. NATIONAL RESEARCH COUNCIL, CLIMATE CHANGE SCIENCE: AN ANALYSIS OF SOME OF THE KEY QUESTIONS, preface (2001).

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[10] CLIMATE CHANGE SCIENCE, *supra* note 2; ABRUPT CLIMATE CHANGE, *supra* note 3. The NAS "is a private, nonprofit, self-perpetuating society of distinguished scholars engaged in scientific and engineering research, dedicated to the furtherance of science and technology and to their use for the general welfare. Upon the authority of a charter granted to it in 1863, the Academy has a mandate that requires it to advise the federal government on scientific and technical matters." CLIMATE CHANGE SCIENCE, *supra* note 2, preface.

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[11] CLIMATE CHANGE SCIENCE, *supra*, note 3.
[12] *Id.*

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[13] *Id.*
[14] ABRUPT CLIMATE CHANGE, *supra*, note 5.

particularly concerning the formation and decomposition of ozone." He is a member of the National Academy of Sciences, and received the Roger Revelle Medal of the American Geophysical Union. He is a member of the Board on Atmospheric Sciences and Climate of the National Research Council, and served on the National Research Council's Committee on Climate Change Science that reviewed the state of climate science for President Bush and produced the 2001 NAS/NRC Report.[15]

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[15] CLIMATE CHANGE SCIENCE, *supra*, note 2.

Rossby Medal of the American Meteorological Society and the Roger Revelle Medal of the American Geophysical Union. He served on the National Research Council's Committee on Climate Change Science that reviewed the state of climate science for President Bush and produced the 2001 NAS/NRC Report.[16] From 2000 to 2001, he served on the NAS/NRC Committee on Abrupt Climate Change: Science and Public Policy.[17]

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[16] CLIMATE CHANGE SCIENCE, *supra* note 2.

[17] ABRUPT CLIMATE CHANGE, *supra* note 3.

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No. 05-1120

In The
Supreme Court of the United States

COMMONWEALTH OF MASSACHUSETTS, et al.,

Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, et al.,

Respondents.

On Petition For Writ Of Certiorari To The United States Court Of Appeals For The District Of Columbia Circuit

BRIEF OF THE U.S. CONFERENCE OF MAYORS, NATIONAL ASSOCIATION OF COUNTIES, AMERICAN PLANNING ASSOCIATION, AND THE CITY OF SEATTLE, WASHINGTON, AS *AMICI CURIAE* IN SUPPORT OF PETITIONERS

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American Insurance Ass'n v. Garamendi, 539 U.S. 396 (2003) 14

National Credit Union Administration v. First National Bank & Trust Co., 522 U.S. 479 (1998) 14

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Clean Air Act, 42 U.S.C. § 7401 *et seq.*:

42 U.S.C. § 7403(g) 15

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42 U.S.C. § 7607(b)(1) 14, 17

49 U.S.C. § 32919(a) 16

OTHER AUTHORITIES

71 Fed. Reg. 17566 (April 6, 2006) 16

A.J. McMichael *et al.*, COMPARATIVE QUANTIFICATION OF HEALTH RISKS: GLOBAL AND REGIONAL BURDEN OF DISEASE DUE TO SELECTED MAJOR RISK FACTORS (World Health Organization, Geneva, 2004) 12

TABLE OF AUTHORITIES – Continued

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Andrew C. Revkin, *Federal Study Finds Accord on Warming*, N.Y. TIMES, May 3, 2006 ..... 5, 6

Anthony Ramirez, *Allstate to Pare Home Policies Near Shore*, N.Y. TIMES, Mar. 10, 2006 10

Benjamin Constant, THE LIBERTY OF THE ANCIENTS COMPARED WITH THAT OF THE MODERNS, in Constant: Political Writings (Biancamaria Fontana trans. & ed., 1988) (1816) 16

Eileen Claussen, *An Effective Approach to Climate Change*, 306 SCIENCE 816 (Oct. 2004) 5

Elizabeth Kolbert, FIELD NOTES FROM A CATASTROPHE: MAN, NATURE, AND CLIMATE CHANGE (Bloomsbury Publishing 2006) 6, 7

J. Alan Pounds *et al.*, *Widespread Amphibian Extinctions from Epidemic Disease Driven by Global Warming*, 439 NATURE 161 (Jan. 12, 2006) 12

Jonathan Patz *et al.*, *Impact of Regional Climate Change on Human Health*, 438 NATURE 310 (Nov. 17, 2005) 12

Kelly Quirke, *Global Warming and Increasing Catastrophe Losses: The Changing Climate of Financial Risk*, 12 J. Ins. Reg. 452 (1994) 5

NATIONAL ASSESSMENT SYNTHESIS TEAM, CLIMATE CHANGE IMPACTS ON THE UNITED STATES: THE POTENTIAL CONSEQUENCES OF CLIMATE VARIABILITY AND CHANGE, REPORT FOR THE U.S. GLOBAL CHANGE RESEARCH PROGRAM (2001) 7, 8, 9, 11, 12

Naomi Oreskes, *Beyond the Ivory Tower: The Scientific Consensus on Climate Change*, 306 SCIENCE 1686 (Dec. 2004) 6

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Paul R. Epstein, *Is Global Warming Harmful to Health?*, SCIENTIFIC AMERICAN 50 (Aug. 2000) 5

Quirin Schiermeier, *A Sea Change*, 439 NATURE 256 (Jan. 2006) 9

Randolph E. Schmid, *Melting Ice Threatens Sea-Level Rise*, Associated Press, Mar. 24, 2006 9

REPORT OF WORKING GROUP II OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, SUMMARY FOR POLICYMAKERS CLIMATE CHANGE 2001: IMPACTS, ADAPTATION, AND VULNERABILITY (2001) 8, 10, 11

Richard A. Kerr, *News Focus: Three Degrees of Consensus*, 305 SCIENCE 932 (August 13, 2004) 6

Spencer S. Hsu, *Insurers Retreat from Coasts*, WASHINGTON POST, Apr. 30, 2006 10

Tim Barnett *et al.*, *The Effects of Climate Change on Water Resources in the West: Introduction and Overview*, 62 CLIMATIC CHANGE 1 (2004) 11

Tim Flannery, THE WEATHER MAKERS (Atlantic Monthly Press 2005) 9

U.S. Department of State, U.S. CLIMATE ACTION REPORT 2002 (May 2002) 6, 9, 10, 11

U.S. EPA, *Average Annual Excess Weather-Related Mortality for 1993, 2020, and 2050 Climate*, slide *at* http://yosemite.epa.gov/OAR/globalwarming.nsf/content/ResourceCenterPresentationsImpacts.html 10

INTEREST OF THE *AMICI CURIAE*[1]

The U.S. Conference of Mayors represents over 1100 U.S. cities with populations of 30,000 or more. The Conference promotes the development of effective urban policy, strengthens federal-city relationships, and creates a forum in which mayors can share ideas and information. The Conference historically has played a leadership role, calling early attention to urban problems and pressing successfully for solutions. In June 2005, the Conference endorsed the U.S. Mayors Climate Protection Agreement, which urges the federal government and state governments to enact policies to decrease global warming pollution levels, including efforts to reduce greenhouse gas emissions from motor vehicles.

The National Association of Counties (NACo) was created in 1935, and its membership totals more than 2,000 counties, representing over 80 percent of the nation's population. NACo acts as a liaison with other levels of government, works to improve public understanding of counties, serves as a national advocate for counties, and helps counties find innovative solutions to the challenges they face. The association is involved in a number of special projects that address specific issues of importance to counties, including issues relating to the environment and sustainable communities.

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[1] The parties have consented to the filing of this brief and letters reflecting that consent have been filed with the Clerk of the Court. This brief was not authored in whole or in part by counsel for a party, and no person or entity other than *amici*, their members, and their counsel made a monetary contribution to the preparation or submission of this brief.

The American Planning Association (APA) is a public interest organization founded in 1978 to advance the art and science of planning at the local, regional, state, and national levels. It represents more than 38,000 planners, officials, and citizens involved, on a day-to-day basis, in formulating and implementing planning policies and land use regulations. The APA encourages its members to combat global warming in several ways, including the design of transportation systems that promote sustainability by reducing dependence on fossil fuels.

The City of Seattle – the largest city in the Pacific Northwest, with a population of 572,000 – has a long history of concern for environmental protection and global warming in particular. Seattle is especially vulnerable to the impacts of climate change, in part because its municipal water supply and hydroelectric system are both dependent on annual snowpack accumulations in the Cascade mountains, which have already declined by 50 percent since 1950. Seattle's electricity supply is essentially climate neutral, and actions to reduce climate pollution emissions are one of the city's highest priorities.

As local officials and planners, *amici* and their members will be the first responders for the variety of disasters that climate change may create, such as the deadly heat waves that strike with special force in urban areas, and the storm surges that threaten heavily populated coastal municipalities. Local governments have a special responsibility to protect, rescue, and rebuild after natural cataclysms of the kind that are likely to increase as the earth warms. They also must grapple with the daily effects of climate change: unreliable municipal water supplies because of droughts or flash floods, and heat-induced air pollution that violates federal standards. For these and

other reasons, *amici*'s interest in this case is strong, and they submit this brief in support of the petition for certiorari to assist the Court in its consideration of the case.

SUMMARY OF ARGUMENT

The questions presented by this case are worthy of review due to (1) their extraordinary importance; (2) the badly fractured ruling by the appeals court below, together with the absence of any further opportunity for judicial clarification from other circuits; and (3) the U.S. Environmental Protection Agency's incoherent explanation for its position, which contravenes the plain text of the Clean Air Act, as well as the legal conclusions reached by two previous EPA General Counsels.

It is difficult to imagine issues of federal statutory law of greater importance, or more deserving of this Court's review, than the questions presented here. Greenhouse gases threaten a potential public-welfare catastrophe. The leading voices of concern come from within the scientific community, whose overwhelming consensus position is that we must act now before the window of opportunity closes.

Nearly 50,000 citizens submitted comments to EPA regarding the 1999 petition to regulate greenhouse gases under the Clean Air Act. In response, EPA declined to reveal its view as to whether greenhouse gases are reasonably anticipated to endanger public health or welfare under section 202 of the Act. Instead, it articulated a reading of the Act that contravenes the exceedingly broad definition of "air pollutant" in section 302(g), and contradicts the Act's

express reference to carbon dioxide as an "air pollutant" in section 103(g).

Although the legal issues before it were squarely and cleanly presented, the federal appeals court produced as badly fractured a judicial ruling as one can possibly receive, with one judge affirming on standing grounds, another judge affirming for policy reasons nowhere mentioned in the statute, and a third judge authoring a lengthy and well-reasoned dissent. This splintered panel ruling was capped by a rehearing denial by the barest of margins (4-3).

Because of their exceptional importance, the legal issues raised by the Petition for Writ of Certiorari deserve a straightforward answer on the merits. And because the U.S. Court of Appeals for the D.C. Circuit has exclusive jurisdiction over these matters, there will be no "percolation" of the issues in other circuits. Review by this Court is necessary to provide the citizenry and our elected officials with a clear judicial answer on the critical legal question of whether the federal Clean Air Act authorizes regulation of motor vehicle emissions that contribute to global warming. Those who bear the greatest risk from global warming, as well as those who share the economic burden of reducing greenhouse gases, deserve no less.

Finally, review by the Court is particularly appropriate in view of the federal government's recent statement that federal law preempts State and local officials from regulating greenhouse gas emissions from motor vehicles. Unlike the usual situation in which a federal agency disavows legal authority, which typically would leave the matter to the States, EPA's position in this case takes on far greater significance.

ARGUMENT

I. THE QUESTIONS PRESENTED ARE OF EXTRAORDINARY IMPORTANCE

"Indeed, if global warming is not a matter of exceptional importance, then those words have no meaning."
App. A-96 (Judge David Tatel, dissenting).

Judge Tatel is right. How else could one describe a potential catastrophe that could bring melting ice caps, rising sea levels, more severe hurricanes and other storms, epidemic increases in cholera, malaria, dengue fever, and other diseases, increased deaths from heat waves, more frequent floods and droughts, crop damage with resulting starvation, and devastating harm to wildlife and the natural environment? It could be a disaster of Biblical proportions.[2] State and local officials will be the first responders to these disasters, and their communities will suffer the consequences of any failure to prevent or mitigate the damage.

The scientific community has reached a near-unanimous consensus on three points: "global warming is occurring; the primary cause is fossil fuel consumption; and if we don't act now to reduce greenhouse gas emissions, it will get worse."[3]

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[2] *See, e.g.*, Paul R. Epstein, *Is Global Warming Harmful to Health?*, SCIENTIFIC AMERICAN 50 (Aug. 2000) (describing the consequences of global warming); Kelly Quirke, *Global Warming and Increasing Catastrophe Losses: The Changing Climate of Financial Risk*, 12 J. Ins. Reg. 452, 453-54 (1994) ("A litany of many of the predicted impacts of climate change – increasingly intense and frequent hurricanes, rising sea levels, coral bleaching, widespread droughts of long duration, record freezes, floods and storms – are becoming common headlines.").

[3] Eileen Claussen, *An Effective Approach to Climate Change*, 306 SCIENCE 816, 816 (Oct. 2004) [hereinafter Claussen]; *accord* Andrew C. Revkin, *Federal Study Finds Accord on Warming*, N.Y. TIMES, May 3,

(Continued on following page)

In fact, the scientific community is the leading voice of concern:

> [I]n most of the cases, it's the lay community that is more exercised, more anxious. * * * But in the climate case, the experts – the people who work with climate models every day, the people who do ice cores – they are *more* concerned. They are going out of their way to say, "Wake up!"[4]

Conservative predictions are that average global temperatures will climb between 4.5 and seven degrees Fahrenheit by the end of the century.[5] These numbers might seem small, but small shifts in global temperature can have enormous effects. Indeed, there is only about a

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2006, at A23 ("A scientific study commissioned by the Bush administration concluded yesterday that the lower atmosphere was indeed growing warmer and that there was 'clear evidence of human influences on the climate system.'"); Naomi Oreskes, *Beyond the Ivory Tower: The Scientific Consensus on Climate Change*, 306 SCIENCE 1686, 1686 (Dec. 2004) (the consensus position is shared by "all major scientific bodies in the United States whose members' expertise bears directly on the matter," including the National Academy of Sciences, the American Meteorological Society, the American Geophysical Union, and the American Association for the Advancement of Science); *id.* (of the 928 peer-reviewed papers published between 1993 and 2003 on climate change, none disagreed with the consensus position).

[4] *See* Elizabeth Kolbert, FIELD NOTES FROM A CATASTROPHE: MAN, NATURE, AND CLIMATE CHANGE 131-132 (Bloomsbury Publishing 2006) [hereinafter FIELD NOTES FROM A CATASTROPHE] (quoting the Co-Director of Princeton University's Carbon Mitigation Initiative).

[5] U.S. Department of State, U.S. CLIMATE ACTION REPORT 2002 at 82 (May 2002) [hereinafter CLIMATE ACTION REPORT], *available at* http://www.epa.gov/globalwarming/publications/car/index.html; *accord* Richard A. Kerr, *News Focus: Three Degrees of Consensus*, 305 SCIENCE 932, 932 (August 13, 2004) ("almost all the evidence points to 3°C [or 5.4°F] as the most likely amount of warming for a doubling of CO_2 . . . by century's end.")

ten degree increase between today's average global temperature and that at the height of the last ice age.[6] The United States is likely[7] to warm between three and nine degrees Fahrenheit during this century.[8]

The harm caused by global climate change will be especially challenging for state and local governments, for several reasons. First, as has been made tragically clear in the United States in the wake of recent man-made and natural disasters, municipal governments are responsible for orderly evacuations from fires and floods, and local officials must plan and reconstruct neighborhoods or entire cities afterwards. Global warming is likely to mean more disasters like intense hurricanes and high storm surges crashing into America's eastern seaboard, which is one of the most urbanized parts of the country and one of the fastest growing. Population shifts alone make global warming a pressing municipal government problem.

Municipalities, particularly large ones, also have to grapple with the less cataclysmic but still threatening challenges of climate change, such as higher temperatures

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[6] FIELD NOTES FROM A CATASTROPHE, *supra* note 4, at 107.

[7] In the scientific dialogue on climate change, the words "likely" and "very likely" have particular meaning. For example, in the Climate Change Impacts Reports prepared for the federally sponsored U.S. Global Change Research Program, "likely" indicates a likelihood of around 60 to 80 percent, and "very likely" indicates a likelihood of around 80 to 100 percent. *See* NATIONAL ASSESSMENT SYNTHESIS TEAM, CLIMATE CHANGE IMPACTS ON THE UNITED STATES: THE POTENTIAL CONSEQUENCES OF CLIMATE VARIABILITY AND CHANGE, REPORT FOR THE U.S. GLOBAL CHANGE RESEARCH PROGRAM 5 (2001) [hereinafter CLIMATE CHANGE IMPACTS], *available at* http://www.usgcrp.gov/usgcrp/Library/nationalassessment/foundation.htm.

[8] CLIMATE ACTION REPORT, *supra* note 5, at 84.

that lead to more smog and federal sanctions for violating clean air standards; or sudden ferocious rainstorms that overwhelm and pollute municipal water supplies and flood transportation networks; or droughts that disrupt hydropower transmission and deplete local reservoirs. As one federal government report put it:

> Climate change has greater potential to add to existing stresses in urban areas due to the impact of rising sea level and elevated storm surges on transportation systems, increased heat-related mortality and morbidity associated with temperature extremes, increased ground-level ozone pollution problems associated with warming, and the impact of precipitation and evaporation changes on water supply.[9]

As discussed in more detail below, cities and counties across the United States face one or more of these challenges.

Rising sea level and storm surges: Increasing sea levels are one of the most certain results of climate change.[10] The Intergovernmental Panel on Climate Change (IPCC) has high confidence (a 67-95 percent degree of certainty) that higher sea levels around North America will lead to "enhanced coastal erosion, coastal flooding, loss of coastal wetlands, and increased risk from storm surges, particularly in Florida and much of the U.S. Atlantic coast."[11] In March 2006, scientists released new

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[9] CLIMATE CHANGE IMPACTS, *supra* note 7, at 111.

[10] *Id.* at 156.

[11] A REPORT OF WORKING GROUP II OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, SUMMARY FOR POLICYMAKERS CLIMATE CHANGE 2001: IMPACTS, ADAPTATION, AND VULNERABILITY 4 n.6, 16 (2001), *available at* http://www.ipcc.ch/pub/wg2SPMfinal.pdf.

studies showing a significant acceleration in the loss of mass from the world's great ice sheets, which is greatly increasing the threat of catastrophic increases in sea levels.[12]

Rising sea levels mean that by the turn of the next century, New York City's 100-year floods will instead occur every 19 years, and are likely to overwhelm the city's airports, highways, subways, and tunnels. Natural and human-induced changes, including the destruction of marshes, barrier islands, and wetlands over the last several decades, make the U.S. Gulf Coast particularly susceptible to damage from rising sea levels. The two- to five-fold increase in the rate of sea level rise predicted by the IPCC "would very likely have dramatic effects on population centers, infrastructure, and natural ecosystems in the low-lying Gulf and South Atlantic Coastal zone."[13]

By 2010, 73 million people will live in the nation's most hurricane-prone counties, most of them in the Southeast United States. They will be in the path of more destructive storms because climate change likely will increase the intensity, if not the frequency, of Atlantic hurricanes.[14] Allstate Insurance Corporation no longer

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[12] Randolph E. Schmid, *Melting Ice Threatens Sea-Level Rise*, Associated Press, Mar. 24, 2006 (reporting on new studies published in the journal "Science"); *see also* Tim Flannery, THE WEATHER MAKERS 6, 144 (Atlantic Monthly Press 2005) (discussing recent studies showing Greenland's glaciers are melting ten times faster than previously thought); Quirin Schiermeier, *A Sea Change*, 439 NATURE 256, 256-58 (Jan. 2006) (the Greenland ice sheet currently is shrinking by an estimated 50 cubic kilometers each year, posing a risk of catastrophic shifts in ocean currents).

[13] CLIMATE CHANGE IMPACTS, *supra* note 7, at 139.

[14] CLIMATE ACTION REPORT, *supra* note 5, at 100-01.

issues new policies to homeowners in Florida, Louisiana, the New York City area, and the Texas Gulf Coast because of the high risk of hurricane destruction.[15] Climate change will thus contribute to a very dangerous mix of more people, stronger storms, and more damage.

Heat morbidity and pollution stresses: Not surprisingly, the IPCC notes that very hot days and more heat waves are "very likely" (a 90-99 percent chance) to occur as a result of climate change.[16] This would have a devastating effect on human health, particularly in urban areas. Cities are doubly at risk of heat waves because they tend to trap heat, cooling less at night and providing less relief to city dwellers, and because they tend to be home to poor and vulnerable populations.[17] EPA estimates that, under one climate change scenario, "excess weather related mortality" in a single year would mean the death of 1250 people in New York City, 600 people in St. Louis, and between 200 and 300 people in Atlanta, Dallas, and Los Angeles.[18]

Warmer weather also exacerbates pollution, particularly ground level ozone or smog, which is already a major health concern in our nation's cities and counties. The added stresses of climate change will harm the residents of these municipalities directly, as ozone levels and smog

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[15] Spencer S. Hsu, *Insurers Retreat from Coasts*, WASHINGTON POST, Apr. 30, 2006 at A1. *See also* Anthony Ramirez, *Allstate to Pare Home Policies Near Shore*, N.Y. TIMES, Mar. 10, 2006, at B4.

[16] WORKING GROUP II OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 11, at 8.

[17] CLIMATE ACTION REPORT, *supra* note 5, at 106.

[18] U.S. EPA, *Average Annual Excess Weather-Related Mortality for 1993, 2020, and 2050 Climate*, slide *at* http://yosemite.epa.gov/OAR/globalwarming.nsf/content/ResourceCenterPresentationsImpacts.html.

increase, and will put enormous strains on local governments.[19]

Water supplies: In 2000, the U.S. Department of Energy sponsored research to determine how climate change would alter the western United States. Researchers came to the disturbing conclusion that "even with a conservative climate model, *current* demands on water resources in many parts of the West will not be met under plausible future climate conditions, much less the demands of a larger population and a larger economy."[20] For instance, the Colorado River Reservoir system will fail to provide enough water to Southern California and inland areas by 2050. Hydroelectric power from the Colorado River will drop by as much as 40 percent. Warmer and drier summers increase the fire risk for the West, particularly the northern Rockies and the Southwest.[21]

While the West struggles with water scarcity (the result of less snow and less water storage in the snowpacks of western mountains), other regions could face unusual floods and the contamination of water supplies. Heavier rainfall in certain areas is a likely result of climate change.[22] Heavy rainfall means more storm water runoff, as the inundated ground cannot absorb the rainwater racing across it. In the Great Plains, runoff could contain "contaminants from fertilizers, herbicides,

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[19] CLIMATE CHANGE IMPACTS, *supra* note 7, at 133, 211-12, 238.

[20] Tim Barnett *et al.*, *The Effects of Climate Change on Water Resources in the West: Introduction and Overview*, 62 CLIMATIC CHANGE 1, 6 (2004), *available at* http://www.uwyo.edu/enr/enrschool/ENR4900_5900/Barnett%20et%20al.%202004.pdf.

[21] *Id.* at 6-7.

[22] CLIMATE ACTION REPORT, *supra* note 5, at 108.

pesticides, livestock wastes, salts, and sediments that reduce the quality of both surface water and groundwater drinking water supplies."[23] Heavy rains also increase the possibility of human exposure to water-borne diseases like cryptosporidium.

Global warming is not merely a future threat, but a present deadly reality. The World Health Organization estimates that anthropogenic (human-produced) warming already is killing up to 150,000 people each year due to malnutrition, malaria, and other maladies.[24] In addition to these ongoing public health consequences, global warming also is causing immediate harm to the environment.[25] And as explained above, the overwhelming scientific consensus is that global warming will significantly worsen.

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[23] CLIMATE CHANGE IMPACTS, *supra* note 7, at 204.

[24] Jonathan Patz *et al.*, *Impact of Regional Climate Change on Human Health*, 438 NATURE 310, 310 (Nov. 17, 2005) (World Health Organization estimates that "warming and precipitation trends due to anthropogenic climate change of the past 30 years already claim over 150,000 lives annually"); *id.* at 313 (citing A.J. McMichael *et al.*, COMPARATIVE QUANTIFICATION OF HEALTH RISKS: GLOBAL AND REGIONAL BURDEN OF DISEASE DUE TO SELECTED MAJOR RISK FACTORS 1543-1649 (World Health Organization, Geneva, 2004)).

[25] J. Alan Pounds *et al.*, *Widespread Amphibian Extinctions from Epidemic Disease Driven by Global Warming*, 439 NATURE 161, 165 (Jan. 12, 2006) (Scientists have a "very high confidence level" (greater than 99 percent) that global warming already has helped cause the loss of many species and poses "an immediate threat to biodiversity.").

II. PRIOR GRANTS OF CERTIORARI SHOW THAT THE QUESTIONS PRESENTED HERE ARE WORTHY OF REVIEW.

This Court repeatedly has reviewed important issues involving EPA's authority under our major environmental statutes, including the Clean Air Act. Just two years ago, the Court granted certiorari "to resolve an important question of federal law, *i.e.*, the scope of EPA's authority" under the Act, notwithstanding the absence of a circuit split. *Alaska Dep't of Envtl. Conservation v. EPA*, 540 U.S. 461, 482 (2004).

The Court also has granted review in cases implicating a single natural resource of special importance. *See Tahoe-Sierra Preservation Council, Inc. v. Tahoe Regional Planning Agency*, 535 U.S. 302, 307, 320 (2002) (certiorari granted "[b]ecause of the importance of the case," based in part on the potential impact on a "uniquely beautiful" natural resource). *A fortiori*, review is warranted here, where global warming threatens human health, public welfare, and countless natural resources of exceptional importance.

This Court also has characterized as worthy of certiorari various issues regarding the allocation of regulatory jurisdiction among federal agencies, particularly on environmental matters. For example, in *Train v. Colorado Public Interest Research Group, Inc.*, 426 U.S. 1 (1976), the Court granted certiorari "[b]ecause of the importance of the issue" of whether EPA or the Atomic Energy Commission had authority to regulate effluent discharges from nuclear plants. *Id.* at 5. The case at bar raises similar issues regarding whether the Clean Air Act authorizes EPA to regulate greenhouse gas emissions from motor vehicles, notwithstanding the U.S. Department of Transportation's

authority to set fuel economy standards. As Judge Tatel observed in dissent, the regulatory regimes are not inconsistent, the Congress anticipated this regulatory overlap, and there is no reason to assume Congress exempted an entire class of pollutants from regulation under the Clean Air Act. App. A-41 to A-42.

Finally, the nationwide implications of the case further increase the importance of the issues and need for review. *See National Credit Union Administration v. First National Bank & Trust Co.*, 522 U.S. 479, 487 & n.3 (1998) (certiorari granted due to "the importance of the issues" in light of a nationwide injunction implementing the lower court rulings); *American Insurance Ass'n v. Garamendi*, 539 U.S. 396, 413 & n.6 (2003) (issue raised by a California law is important and worthy of review in part because several other States have passed similar laws). Because the D.C. Circuit has exclusive jurisdiction over petitions for review challenging determinations made under section 202 of the Clean Air Act (42 U.S.C. § 7607(b)(1)), the nationwide influence of its ruling confirms the need for close scrutiny.

III. EPA'S MISGUIDED AND SHIFTING POSITIONS AND THE DEEPLY FRACTURED JUDICIAL RULING BELOW PROVIDE FURTHER JUSTIFICATION FOR REVIEW.

Public interest and concern with global warming is enormous, with citizens submitting almost 50,000 comments to EPA regarding the 1999 petition to regulate greenhouse gases under the Clean Air Act. App. A-63. Most of the commenters supported the request. *Id.* Some thirty parties – including twelve States with a total population exceeding 100 million people – filed the Petition for Review in the D.C.

Circuit challenging EPA's rejection of the 1999 petition. Ten States have weighed in on the other side, confirming that the case involves a fundamental legal dispute among two large State coalitions.

In the face of this monumental public concern, where have the agency and the appeals court left us? EPA produced an utterly incoherent explanation for why it declines to reveal its views on whether greenhouse gases are reasonably anticipated to endanger public health or welfare under section 202. As explained in the Petition for Certiorari, EPA's analysis contravenes the Act's exceedingly broad definition of "air pollutant" in section 302(g) (42 U.S.C. § 7602(g)), and contradicts the Act's express reference to carbon dioxide as an air pollutant in section 103(g) (42 U.S.C. § 7403(g)). In addition to being wholly untethered to the text of the Act, EPA's position contravenes the legal conclusions reached by two previous EPA General Counsels. App. A-68.

On appeal, the legal issues were squarely and cleanly presented, but the D.C. Circuit rendered a badly fractured ruling, with one judge affirming on standing grounds, another affirming on policy grounds nowhere mentioned in the statute, and a third judge authoring a lengthy and blistering dissent, capped by an en banc rehearing denial by the barest of margins (4-3), with two judges not participating.

After all this, our citizenry has no definitive judicial ruling on the critical legal issue of whether EPA may regulate greenhouse gases under section 202. The States, other government bodies, and numerous environmental groups that filed this case; the 50,000 commenters on the 1999 petition to EPA; the scientific community; and the American people deserve better. These tens of thousands

of citizens have attempted an active "participation in collective power"[20] of the government on one of the most pressing public policy issues of our time, only to be handed a thoroughly confused and misguided reaction from the bureaucracy and a fractured judicial response.

Finally, review by the Court is especially appropriate in light of the federal government's recent assertion that federal law preempts State and local officials from regulating greenhouse gas emissions from motor vehicles. Just last month, the National Highway Traffic Safety Administration (NHTSA) articulated its position that the federal Energy Policy and Conservation Act, which preempts State regulation "related to fuel economy standards," 49 U.S.C. § 32919(a), applies to State and local laws limiting carbon dioxide emissions from motor vehicles. *See* 71 Fed. Reg. 17566, 17654-70 (April 6, 2006). In short, the federal government's current position is that EPA cannot regulate carbon dioxide emissions from motor vehicles under the Clean Air Act, and neither may any other level of government. Unlike the typical case of federal agency disavowal of legal authority, which normally would leave the matter to State and local officials, EPA's position here takes on far greater significance. *Amici* do not endorse NHTSA's reading of the Energy Policy and Conservation Act, but it cannot be denied that its reading dramatically raises the stakes in this case.

We respectfully request a straightforward answer on the critical legal issues raised by this case, and only this

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[20] Benjamin Constant, THE LIBERTY OF THE ANCIENTS COMPARED WITH THAT OF THE MODERNS, in Constant: Political Writings 307 (Biancamaria Fontana trans. & ed., 1988) (1816).

Court can provide it. There will be no "percolation" of the issue in other circuits due to the D.C. Circuit's exclusive jurisdiction over petitions for review challenging determinations made under section 202. *See* 42 U.S.C. § 7607(b)(1). Without review by this Court, this momentous issue will be left in legal limbo.

CONCLUSION

The Petition for Writ of Certiorari should be granted.

Respectfully submitted,

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(23)

No. 05-1120

IN THE

Supreme Court of the United States

COMMONWEALTH OF MASSACHUSETTS, *et al.*
Petitioners,
v.
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,
Respondent.

ON WRIT OF CERTIORARI TO THE UNITED STATES
COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

JOINT APPENDIX

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PETITION FOR CERTIORARI FILED MARCH 2, 2006
CERTIORARI GRANTED JUNE 26, 2006

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Comm. of Massachusetts, et al. v. EPA

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10/23/03	PETITION FOR REVIEW CASE docketed. Petition for Review filed by Petitioner St CA, Petitioner CA Air Resrc Bd, Petitioner Bill Lockyer. [780992-1] (lme) [03-1362]
10/23/03	PETITION FOR REVIEW CASE docketed. Petition for Review filed by Petitioner Intl Ctr Technol, Petitioner Bluewater Ntwrk, Petitioner Ctr Bio Divrsty, Petitioner Ctr Food Sfty, Petitioner Consrvtn Law Fdn, Petitioner Env Advoc, Petitioner Env Def, Petitioner Friends Earth Inc, Petitioner Greenpeace, Petitioner Natl Env Trst, Petitioner Nat Resrc Def Cncl, Petitioner Sierra Club, Petitioner Union Cncnd, Petitioner US Pub Int Rsrch Grp. [781057-1] (lme) [03-1363]
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10/29/03 CLERK'S ORDER filed [781375] to consolidate cases [781375-1] [entry date: 10/29/03] [03-1361, 03-1362, 03-1363, 03-1364]

12/23/03 CLERK'S ORDER FILED [793007] of the motions for leave to intervene filed by the Utility Air Regulatory Group and the CO2 Litigation Group, and the responses thereto, it is ORDERED that the motions be granted [788192-1] [788196-1].

12/23/03 CLERK'S ORDER filed [793023] of the respondent's unopposed motion to consolidate and to allow parties leave to file proposed briefing formats, it is ORDERED that the motion be granted [788499-1], and the above captioned cases are hereby consolidated. [Entry Date 12/23/03] [03-1361, 03-1362, 03-1363, 03-1364, 03-1365, 03-1366, 03-1367, 03-1368]

12/23/03 CLERK'S ORDER filed [793101] granting non-party motion(s) to intervene filed by St. MI, St. TX, St. ID, St. ND, St. UT, St SD, St. AK, St KS, St. NE, St OH [788217-1], filed by Alli Auto Mftr, Nat Auto Dlrs Assn, Engine Mftr Assn, Trk Mfg Assn [788169-1] in 03-1361, filed by Util Air Regu Grp, filed by CO2 Litigation Grp [788583-1], filed by Alli Auto Mftr, Nat Auto Dlrs Assn, Engine Mftr Assn, Trk Mfg Assn [788518-1] in 03-1365.

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7/15/05 JUDGMENT that the Petitions for Review In

	03-1361, 03-1362, 03-1363, and 03-1364 Are Denied, and the Petitions for Review in Nos. 03-1365, 03-1366, 03-1367, and 03-1368 Are Dismissed for the Reasons in the Accompanying Opinion. Before Sentelle, Randolph, Tatel.
7/15/05	OPINION filed [906086] (15 pgs) for the Court by Judge Randolph, DISSENTING OPINION (5 pgs) filed by Judge Sentelle, DISSENTING OPINION (38 pgs) filed by Judge [Tatel].
8/29/05	PETITION FOR REHEARING [916280-1] and PETITION, for rehearing en banc [916280-2], 20 copies) filed by Petitioner Cm MA in 03-1361, Petitioner St ME in 03-1361, Petitioner St NM in 03-1361, Petitioner St RI in 03-1361, Petitioner St WA in 03-1361, Respondent EPA in 03-1361.
12/2/05	PER CURIAM ORDER, In Banc, filed [955017] denying suggestion for rehearing en banc [916280-2] filed by Cm MA, et al. in 03-1361. Before Judges Sentelle, Henderson,* Randolph, Rogers,** Tatel,** Garland* Brown, Griffith.** [PUBLISHED IN OPINION FORMAT] [Entry Date: 12/2/05] [03-1361, 03-1362, 03-1363, 03-1364, 03-1365, 03-1366, 03-1367, 03-1368] (*Circuit Judges Henderson and Garland did not participate in this matter. **Circuit Judges Rogers, Tatel, and Griffith would grant the petition for rehearing en banc. A separate Statement by Circuit Judge Tatel, in which Circuit Judge Rogers joins, dissenting from the denial of rehearing en banc, is

attached.)

12/2/05	PER CURIAM ORDER filed [935024] denying petition rehearing [916280-1] filed by Cm MA, et al. (Mandate may issue on or after 12/12/05 in 03-1361, et al.) Before Judges Sentelle, Randolph, Tatel*. (Circuit Judge Tatel would grant the petition for rehearing) [Entry Date 12/2/05] [03-1361, 03-1362, 03-1363, 03-1364, 03-1365, 03-1366, 03-1367, 03-1368]

BEFORE THE ADMINISTRATOR OF THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

INTERNATIONAL CENTER FOR TECHNOLOGY ASSESSMENT, 310 D Street, N.E. Washington, DC 20002, *et al.*,	)	
Petitioners,	)	
vs.	)	Docket No. [A-2000-04]
HON. CAROL BROWNER, in her official capacity as, Administrator of the United States Environmental Protection Agency 401 M Street, S.W. Room W1200 Washington, DC 20460,	)	
Defendant.	)	

PETITION FOR RULEMAKING AND COLLATERAL RELIEF SEEKING THE REGULATION OF GREENHOUSE GAS EMISSIONS FROM NEW MOTOR VEHICLES UNDER § 202 OF THE CLEAN AIR ACT

Int'l. Ctr. For Tech Assm't
Legal Petition to EPA - October 20, 1999
[footer deleted from subsequent pages]

Pursuant to the Right to Petition Government Clause contained in the First Amendment of the United States

Constitution,[1] the Administrative Procedure Act,[2] the Clean Air Act,[3] and the Environmental Protection Agency ("EPA") implementing regulations, petitioners file this Petition for Rulemaking and Collateral Relief with the Administrator and respectfully requests her to undertake the following mandatory duties:

(1). Regulate the emissions of carbon dioxide (CO_2) from new motor vehicles and new motor vehicle engines under § 202(a)(1) of the Clean Air Act;

(2). Regulate the emissions of methane (CH_4) from new motor vehicles and new motor vehicle engines under § 202(a)(1) of the Clean Air Act;

(3). Regulate the emissions of nitrous oxide (N_20) from new motor vehicles and new motor vehicle engines under § 202(a)(1) of the Clean Air Act;

(4). Regulate the emissions of hydrofluorocarbons (HFCs) from new motor vehicles and new

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[1] "Congress shall make no law . . . abridging . . . the right of the people . . . to petition Government for a redress of grievances." U.S. Const., amend. I. The right to petition for redress of grievances is among the most precious of the liberties safeguarded by the Bill of Rights. United Mine Workers of America, Dist. 12 v. Illinois State Bar Association, 389 U.S. 217, 222, 88 S. Ct. 353, 356, 19 L. Ed. 2d 426 (1967). It shares the "preferred place" accorded in our system of government to the First Amendment freedoms, and has a sanctity and a sanction not permitting dubious intrusions. Thomas v. Collins, 323 U.S. 516, 530, 65 S. Ct. 315, 322, 89 L. Ed. 430 (1945). "Any attempt to restrict those First Amendment liberties must be justified by clear public interest, threatened not doubtful or remotely, but by clear and present danger." Id. The Supreme Court has recognized that the right to petition is logically implicit in, and fundamental to, the very idea of a republican form of government. United States v. Cruikshank, 92 U.S. (2 Otto) 542, 552, 23 L. Ed. 588 (1875).

[2] 5 U.S.C. § 553(e) (1994).

[3] 42 U.S.C. § 7401, *et seq.* (1994).

motor vehicle engines under § 202(a)(1) of the Clean Air Act;

PETITIONERS

Petitioner *International Center for Technology Assessment* (CTA) is located at 310 D Street, N.E., Washington, DC 20002. Formed in 1994, CTA seeks to assist the public and policy makers in better understanding how technology affects society. CTA is a non-profit organization devoted to analyzing the economic, environmental, ethical, political and social impacts that can result from the application of technology or technological systems.

Petitioner *Alliance for Sustainable Communities* is located at 2041 Shore Drive, Edgewater, MD 21037. The Alliance was formed five years ago in order to bring together representatives of government at all levels, citizens and innovators to develop projects which express the primary relationship between people and the earth.

Petitioner *Applied Power Technologies, Inc.* (APT) is located at 357 Imperial Blvd., Cape Canaveral, FL 32920-4219. APT is a research & development concern bringing new energy conversion systems to the air-conditioning industry on behalf of the natural gas industry. APT will advent the deregulation and decentralization of power production by producing nearly pollution-free air-conditioning, refrigeration and related appliances which will convert clean natural gas into electric offsetting heat energy on-site of actual end usage.

Petitioner *Bio Fuels America* is located at 28 Lorin Dee Drive, Westerlo, NY 12193. Bio Fuels America is a not for profit, self funded, advocacy group that promotes renewable energies such as wind, sun and biomass.

Petitioner *The California Solar Energy Industries Association* (CAL SEIA) is located at 23120 Alicia Parkway, Ste. 107, Mission Viejo, CA 92692.CAL SEIA is a solar industry trade association with 70 member companies who do business in California. CAL SEIA's members include manufacturers of both solar thermal and photovoltaic technologies, as well as distributors, contractors, architects, engineers and utilities.

Petitioner *Clements Environmental Corporation* is located at 3607 Seneca Avenue, Los Angeles, CA 90039. Clements Environmental Corp. is a small environmental engineering firm specializing in the conversion of Municpal Solid Waste and other waste organics to biofuels and biochemicals.

Petitioner *Environmental Advocates* is located at 353 Hamilton Street, Albany, NY 12210. Environmental Advocates serves the people of New York as an effective and aggressive watchdog and advocate on virtually every important state environmental issue. Through advocacy, coalition building, citizen education and policy development, we work to safeguard public health and preserve our unique natural heritage. With thousands of individual supporters and over 130 organizational members, Environmental Advocates is truly the voice of New York's environmental community.

Petitioner *Environmental and Energy Study Institute (EESI)* is located at 122 C St. NW, Suite 700, Washington, D.C. 20001. EESI is a non-profit organization founded in 1982 by a bipartisan group of Members of Congress. EESI promotes public policy that sustains people, the environment and our natural resources. EESI's wide-ranging audience includes Congress and other national policymakers, as well as state and local officials, industry leaders, the public interest community, the media, and the general public. EESI draws together timely

information, innovative public policy proposals, policymakers, and stakeholders to seek solutions to environmental and energy problems.

Petitioner *Friends of the Earth* is located at 1025 Vermont Ave., NW, Suite 300, Washington, DC 20005 Friends of the Earth is a national environmental organization dedicated to preserving the health and diversity of the planet for future generations. As the largest international environmental network in the world with affiliates in 63 countries, Friends of the Earth empowers citizens to have an influential voice in decisions affecting their environment.

Petitioner *Full Circle Energy Project, Inc.* is located at 6 Brooklawn Road, Wilbraham, MA 01095-2002. Full Circle Energy Project, Inc. is a non-profit organization founded to enable environmentally sensible and sustainable energy resources to supply at least 50% of the total energy used in the United States. Its primary focus is on reducing the amount of fossil fuels used by the transportation sector.

Petitioner *The Green Party of Rhode Island* is located in Providence, RI. The Green Party of RI is a part of the international Green Party movement. In Rhode Island it has run candidates for a variety of offices, always focusing on environmental issues as well as justice, non violence, and democracy issues.

Petitioner *Greenpeace USA* is located at 1436 U Street, NW, Washington, DC 20009. Greenpeace is one of the world's major environmental organizations with offices in 33 countries, including the United States of America, and over 3 million donating supporters worldwide. Greenpeace is a non-profit organization devoted to the protection of the environment with an emphasis on global environmental problems such as climate change and protection of the stratospheric ozone layer,

prevention of nuclear, chemical and biological pollution, and defense of biodiversity.

Petitioner *Network for Environmental and Economic Responsibility of the United Church of Christ*, Washington Office, 1820 Sanford Road, Wheaton, MD 20902-4008. The Network for Environmental and Economic Responsibility (NEER) is a grassroots, volunteer movement committed to mobilizing UCC persons, networks and resources for a holistic ministry of learning, reflection, and action cognizant of the earth and its creatures. Network members believe that all living things on our planet are interdependent in a vast web of life.

Petitioner *New Jersey Environmental Watch* is located c/o St. John's Church, 61 Broad Street, Elizabeth, NJ 07201. New Jersey Environmental Watch is a church based organization in New Jersey that seeks better air in their area and elsewhere. Recently, it recorded 40 percent of our Sunday School children had been hospitalized for asthma. It is also in cancer alley and have greatly elevated cancer rates. The 14-lane New Jersey Turnpike passes through Elizabeth, NJ the bottom 40 percent of the Newark Airport is located there as well, and Elizabeth is immediately downwind of the huge Bayway Tosco refinery in Linden.

Petitioner *New Mexico Solar Energy Association* (NMSEA) is located at P.O. Box 8507 Santa Fe, NM 87505. NMSEA is an all volunteer organization working to further solar and related arts, sciences, and technologies with concern for the ecologic, social and economic fabric of the region. It serves to inform public, institutional and government bodies and seeks to raise the level of public awareness of these purposes.

Petitioner *Oregon Environmental Council* (OEC) is located at 520 SW 6th Avenue, Suite 940, Portland, OR 97204-1535. OEC, founded in 1968, is Oregon's oldest statewide environmental group. OEC works to restore and protect Oregon's water and air by creating and promoting environmental policies.

Petitioner *Public Citizen* is located at 215 Pennsylvania Ave., SE, Washington, DC 20003. Public Citizen, founded by Ralph Nader in 1971, is a non-profit research, lobbying, and litigation organization based in Washington, DC. Public Citizen advocates for consumer protection and for government and corporate accountability, and is supported by over 150,000 members throughout the United States.

Petitioner *Solar Energy Industries Association (SEIA)* is located at 1111 North 19th Street, Suite 260, Arlington, VA 22209. The Solar Energy industries Association (SEIA), founded in 1974, is the U.S. industry organization composed of over 150 solar-electric and solar thermal manufacturers, component suppliers, national distibutors and project developers, and an additional 400 companies in the SEIA--affiliated state and regional chapters covering 35 states.

Petitioner *The SUN DAY Campaign* is located at 315 Circle Avenue, Suite #2, Takoma Park, MD 20912-4836. The SUN DAY Campaign is a non-profit network of 850+ businesses and organizations founded in 1991 to promote increased use of renewable energy and energy efficient technologies. Areas of work include research on sustainable energy technologies, electric utility restructuring, climate change, and the federal energy budget. Projects include publication of a weekly newsletter, an annual series of directories of sustainable energy organizations, and other studies.

STATEMENT OF LAW

Clean Air Act, Section 302(g), 42 U.S.C. § 7602(g):

> The term "air pollutant" means any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive (including source material, special nuclear material, and byproduct material) substance or matter which is emitted into or otherwise enters ambient air. Such term includes any precursors to the formation of any air pollutant, to the extent the Administrator has identified such precursor or precursors for the particular purpose for which the term "air pollutant" is used.

Clean Air Act, Section 202(a)(1), 42 U.S.C. § 7521(a)(1):

> The Administrator shall by regulation prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any air pollutant from any class or classes of new motor vehicle or new motor vehicle engine, which in his judgment cause, or contribute to, air pollution which may be reasonably anticipated to endanger public health or welfare. Such standards shall be applicable to such vehicles and engines for the useful life . . . whether such vehicle or engines are designed as complete systems or incorporate to devices to prevent the control of such pollution.

U.S. Constitution, amendment I

Administrative Procedure Act, 5 U.S.C. § 551, *et seq.*

All other applicable statutes and regulations.

BRIEF STATEMENT OF FACT

The Earth's temperature is increasing. Scientists from the National Oceanic and Atmospheric Administration ("NOAA"), the U.S. Regional Climate Centers, and the World Meteorological Organization all agree that 1998 was the warmest year on record.[4] The temperature increases recorded in 1998 represent a steady trend over the past twenty years of record breaking global surface temperatures.[5] The United Nations Intergovernmental Panel on Climate Change ("IPCC"), an authoritative body of more than two thousand of the world's leading climate change scientists, stated that the emission of anthropogenic greenhouse gases, including carbon dioxide ("CO_2"), methane ("CH_4"), nitrous oxide ("N_2O"), and hydrofluorocarbons ("HFCs") [hereinafter referred to collectively as "greenhouse gases"], are significantly accelerating this current warming trend.[6] Human activities are increasing the concentration of heat trapping greenhouse gases in the atmosphere and the effect is called global warming. Due to these high fossil fuel emission levels, the IPCC warned that:

> carbon dioxide remains the most important contributor to anthropogenic forcing of climate change; projections of future global mean temperature change and sea level rise confirm the potential for human activities to alter

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[4] National Oceanic and Atmospheric Administration (January 12, 1999), http://www.ncdc.noaa.gov/ol/climate/research/1998/ann/ann98.html.

[5] Id.

[6] United Nations Environmental Programme (UNEP)/World Meteorological Organization (WMO), Climate Change 1995: The Science of Climate Change. Technical Summary of Working Group I of the Intergovernmental Panel on Climate Change [hereinafter Climate Change 1995, Pet. Ex. 1].

Earth's climate to extent unprecedented in human history.[7]

Approximately 90% of U.S. greenhouse gas emissions from anthropogenic sources occurs because of the combustion of fossil fuel.[8] U.S. mobile sources are responsible for a significant amount of greenhouse gas emissions. In fact, in the United States, the fossil fuel CO_2 emissions from cars and light trucks are higher than the total nationwide CO_2 emissions from all but three other countries (China, Russia, and Japan).[9]

This anthropogenic forcing of climate change will affect not only the environment, but will also significantly impact human health. At a conference on Human Health and Global Climate Change, cosponsored by the National Science and Technology Council and the Institute of Medicine, Vice President Al Gore outlined the potential health risks caused by global warming and stated that measures must be taken to safeguard the American people.[10] Additionally, the conference participants stated that the lack of complete data on this issue should not be used as an excuse for inaction.[11] Instead, the participants urged governments to apply the precautionary principle to its decision making concerning global warming.[12]

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[7] Id. at 3.

[8] U.S. Department of Energy, TECHNOLOGY OPPORTUNITIES TO REDUCE U.S. GREENHOUSE GAS EMISSIONS, xiii (Oct. 1997).

[9] John DeCicco and Martin Thomas, GREEN GUIDE TO CARS AND TRUCKS, 2 (1999).

[10] The Conference on Human Health and Global Climate Change, September 11, 1995, at 4 [hereinafter Conference on Human Health and Global Climate Change, Pet. Ex. 2].

[11] Id. at 1.

[12] Id.; (The "precautionary principle" urges action to regulate activities which may be harmful to the environment *even* if conclusive scientific

(continued...)

Embodied in this request is an understanding that the tremendous potential risks to public health posed by global warming dictate that governments must act with precaution and take all prudent steps necessary to reduce the emission of anthropogenic greenhouse gases.

Within the context of United States governmental decision making, the precautionary principle is embraced by the Clean Air Act ("CAA"), a statute allowing for the implementation of a regulatory framework mandating the reduction of greenhouse gases. Under the CAA, the Administrator is permitted to make a precautionary decision to regulate pollutants in order to protect public health and welfare.[13] In addition to the precautionary nature of the CAA, the Administrator has a mandatory duty to regulate greenhouse gas emissions from new motor vehicles under § 202(a)(1) of the CAA. Petitioners urge the Administrator to reduce the effects of global warming by regulating the emission of greenhouse gases from new motor vehicles.

(...continued)
evidence of their harmfulness is not yet available. At its most profound, the precautionary principle dictates the institutionalization of precaution, which entails the shifting of the burden of proof from those opposing environmental degradation to those engaged in the challenged activity. *See e.g.*, Philippe Sands, ed., GREENING INTERNATIONAL LAW (New Press/1994) at 118.)

[13] See H.R. Rep. No. 294, 95th Cong., 1st Sess. 49 (1977).

ARGUMENT

I. GREENHOUSE GAS EMISSIONS FROM NEW MOTOR VEHICLES MUST BE REGULATED UNDER § 202(a)(1) OF THE CLEAN AIR ACT.

Under § 202(a)(1) of the Clean Air Act, 42 U.S.C. § 7521(a)(1), the Administrator is directed to prescribe standards for the emission of greenhouse gases from new motor vehicles[14] if she has determined that: (1) the emission of a greenhouse gas is an "air pollutant" and is emitted from new motor vehicles; *and* (2) the emission causes or contributes to air pollution which may reasonably be anticipated to endanger public health *or* welfare. For the reasons contained herein, the Administrator has made such determinations for greenhouse gases, including CO_2, CH_4, N_2O, and HFCs, and petitioners request the Administrator to undertake her mandatory duty to regulate these as directed by § 202(a)(1) of the CAA.

A. Greenhouse Gases Meet The Definition Of "Air Pollutant" Under The Clean Air Act And Are Emitted From New Motor Vehicles.

Pursuant to § 302(g), 42 U.S.C. § 7602(g), of the CAA, an "air pollutant" is defined as:

> any air pollutant agent or combination of such agents including any physical, chemical, biological, radioactive (including source material, special nuclear material, and byproduct material) substance or matter which

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[14] Section 202 applies to new motor vehicles and new motor vehicle engines. Hereinafter, petitioners' reference to "new motor vehicles" also applies to "new motor vehicle engines."

> is emitted into or otherwise enters ambient air. Such term includes any precursors to the formation of any air pollutant, to the extent the Administrator had identified such precursors or precursors for the particular purpose for which the term "air pollutant" is used.

Courts have interpreted this definition in an extremely broad manner.[15] The greenhouse gas emissions that the petitioners request the Administrator to regulate under § 202(a)(1) meet the CAA's broad statutory definition of "air pollutant" and are emitted from new motor vehicles.

(1) Emission of Carbon Dioxide

Carbon dioxide (CO_2) meets the § 302(g) definition. Over the last several decades, levels of CO_2 emissions have sharply risen causing the natural equilibrium of emissions and absorption to fall out of balance. Although CO_2 is a naturally occurring gas that is produced by living organisms and absorbed by oceans and trees, the extensive burning of fossil fuels has dramatically increased CO_2 levels and disrupted this natural equilibrium.[16] In fact, the U.S. Climate Action Report's "Greenhouse Inventory," submitted under the United Nations Framework Convention on Climate Change, states that CO_2 is considered the most significant greenhouse gas in the U.S. because it encompasses eighty-five percent of the total U.S. greenhouse gas emissions.[17] Due to the global warming dangers connected with the high emissions of CO_2, this greenhouse gas satisfies the definition of "air pollutant" under the CAA.

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[15] Alabama Power Co., v. Costle, 636 F.2d 323, 353 (D.C. Cir. 1979).

[16] Greenhouse Gas Inventory, U.S. Climate Action Report 7 (1997) [hereinafter U.S. Climate Action Report, Ex. 3].

[17] Id.

Additionally, mobile sources emit significant amounts of CO_2. The transportation sector contributes over 30% of U.S. greenhouse gas CO_2 emissions from fossil fuel combustion.[18] Almost two-thirds of the emissions come from automobiles and the remaining emissions come from trucks and aircraft.[19] The greenhouse gas emissions from transportation sources are predicted to grow faster than any other emission source.[20]

Finally, the agency has already made a legal determination that CO_2 meets the definition contained in § 302(g). In an April 10, 1998, memorandum to the Administrator, EPA General Counsel Jonathan Z. Cannon found that the broad definition of § 302(g) "states that 'air pollutant' includes any physical, chemical biological, or radioactive substance or matter that is emitted into or otherwise enters ambient air. SO_2, NO_x, CO_2 and mercury from electric power generation are each a "physical [and] chemical . . . substance which is emitted into . . . the ambient air," and hence, each is an air pollutant within the meaning of the Clean Air Act."[21] The memorandum further notes that Congress explicitly recognized CO_2 emissions as an "air pollutant" under § 103(g) of the Clean Air Act.[22] Recently, EPA again made this legal determination during hearings before Congress.[23]

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[18] Department of Energy, Reducing Greenhouse Transportation Sector Emissions, http://www.esd.ornl.gov/bfdp/biowin/reducing.html.

[19] U.S. Climate Action Report, Ex. 3 at. 8.

[20] Id.

[21] Johnathan Z. Cannon, Memorandum to Carol M. Browner, Adminsitrator, "EPA's Authority to Regulate Pollutants Emitted by Electric Power Generation Sources." (April 10, 1998).

[22] Id.

[23] Testimony of Gary S. Guzy, General Counsel, U.S. E.P.A., before a Joint Heaing of the Subcommitttee on National Economic Growth, Natural Resurces and Regulatory Affairs of the Committee on Government Reform (continued...)

(2) Emission of Methane

Methane (CH_4) should also be considered an "air pollutant" under § 302(g) of the CAA because of its contribution to global warming. The U.S. Climate Action Report indicates that CH_4 "is estimated to be twenty-one times more effective at trapping heat in the atmosphere than CO_2 over a 100-year time horizon."[24] During the past two centuries, CH_4 concentrations have more than doubled due to human activities.[25] Because CH_4 is a potent greenhouse gas, it satisfies the definition of "air pollutant" under the CAA. Furthermore, motor vehicles fueled by gasoline emit CH_4. The EPA's most recent inventory of greenhouse gas emissions indicates that in 1997 gasoline powered cars, trucks, and heavy-duty vehicles emitted 1.2 MMTCE of CH_4.[26]

(3) Emission of Nitrous Oxide

Nitrous oxide (N_2O) is a greenhouse gas that is produced naturally by biological sources in soil and water. However, over the past two centuries, N_2O levels have increased by eight percent due to human activities.[27] The U.S. Climate Action Report explains that "[w]hile N_2O emissions [sic] are much lower than CO_2 emissions, N_2O is approximately 310 times more powerful than CO_2 at trapping heat in the

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[23] (...continued)
and the Subcommittee on Energy and Environment of the Committee on Science, United States House of Representatives. (October 6, 1999).

[24] Id. at 10.

[25] Id.

[26] EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-1997, 36 (Mar. 1999).

[27] U.S. Climate Action Report, Ex. 3 at 13.

atmosphere over a 100-year horizon."[28] As a result, N_2O meets the CAA definition of "air pollutant."

This greenhouse gas is also emitted from motor vehicles during fossil fuel combustion.[29] Due to the installation of catalytic converters, a device designed to reduce air pollution, the volume of N_2O emitted from motor vehicles has risen.[30]

(4) Emission of Hydrofluorocarbons

Hydrofluorocarbons (HFCs) is a powerful greenhouse gas that meets the definition of "air pollutant" under the CAA. HFCs were introduced as alternatives to chlorofluorocarbons, which are ozone depleting substance.[31] Although these gases do not directly destroy ozone, they do contribute to global warming.[32] HFCs impact the ambient air by contributing to global warming as much as 10,000 times that of CO_2.[33] The emissions of HFCs from motor vehicles have increased since 1993 due to the use of HFC-134a in mobile air conditioners.[34]

As discussed above, the four greenhouse gases subject to this petition have been determined to accelerate global warming. Additionally, the agency has already made the determination that CO_2 is an "air pollutant"as defined under the CAA. Accordingly, similar determinations that the emissions of CH_4, N_2O, and HFCs from motor vehicles also meet the definition of "air pollutant" under § 302(g) of the CAA follow.

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[28] Id.

[29] Id.

[30] Id.

[31] MSNBC, Greenhouse gases under review, http://www.msnbc.com/news/127171.asp.

[32] Id.

[33] Id.

[34] U.S. Climate Action Report, Ex. 3 at 16.

B. *The Emission Of Greenhouse Gases Contributes To Pollution Which Is Reasonably Anticipated To Endanger Public Health And Welfare.*

Pursuant to the requirements of §202(a)(1), greenhouse gas emissions from new motor vehicles must also be regulated under the CAA because of their endangerment to public health or welfare. When determining what constitutes an endangerment to public health and welfare, the CAA does not require proof of actual harm. Instead, the Administrator is permitted to make a precautionary decision to regulate a pollutant if it "may reasonably be anticipated" to endanger public health or welfare.[35] This requirement is confirmed by the CAA's legislative history. The House Report accompanying the 1977 Amendments states that one of the CAA's purposes is "[t]o emphasize the preventive or precautionary nature of the act, i.e., to assure that regulatory action can effectively prevent harm before it occurs; to emphasize the predominant value of protection of public health."[36] As enumerated below, the EPA and other federal agencies have already made numerous findings that greenhouse gas emissions from new motor vehicles are air pollutants reasonably anticipated to endanger public health and welfare. Therefore, the Administrator has the statutory obligation to regulate the emissions of air pollutants from new motor vehicles under § 202(a)(1) in order to prevent future harm.

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[35] Engine Mfr. Ass'n v. EPA, 88 F.3d 1075, 1099 (D.C. Cir. 1996); *See also*, Lead Industries Assoc., 647 F.2d at 1156 (explaining that the 1977 CAA amendments made the threshold decision to regulate air pollutants precautionary in nature.).

[36] H.R. Rep. No. 294, 95th Cong., 1st Sess. 49 (1977)(stating that Congress used the phrase "may reasonably be anticipated to endanger public health or welfare" to emphasize the precautionary nature of the CAA. This phrase is present in sections 108, 111, 112, 202, 211, and 231.)

(1). The Emission of Greenhouse Gases Will Endanger Public Health.

The IPCC reports that greenhouse gas emissions are significantly accelerating current warming trends and estimates that by the year 2100, the Earth's temperature will have changed by two degrees Celsius.[37] As a result of increased temperatures, the EPA reports that certain infectious diseases may become more prevalent in geographic areas that were once free from the threat of such diseases.[38] In particular, global warming may increase vector-born diseases such as malaria, dengue fever, encephalitis, and hantavirus along with increasing water-born diseases such as cholera, toxic algae, and cryptosporidiosis. Changing climate conditions will also increase the likelihood of direct effects on human health, including heat stress, skin cancer, cataracts, and immune suppression.

(a). Global Warming Increases the Threat of Infectious Diseases.

1. Increases in Vector-borne Diseases.

Infectious diseases kill over seventeen million people each year.[39] Vector-borne diseases, usually caused by a microbial, insect or small mammal vector, cause a large portion of those fatalities.[40] The spread of vector-borne diseases is a serious concern because disease vectors are sensitive to climate

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[37] Jonathan A. Patz, Public Health Effects of Climate Change Synthesis of the IPCC Findings, 2 (1996) [hereinafter IPCC, Ex. 4].

[38] EPA, Global Warming, http://www.epa.gov/globalwarming/impacts/health/index.html.

[39] IPCC, Ex. 4 at 7

[40] Id.

variations.[41]

Malaria is the most prevalent vector-born disease. Although this disease generally occurs in the tropics and subtropics, the U.S. is not immune from this disease as indicated by the latest Center for Disease Control ("CDC") report. [42] The CDC reports a 15% increase in cases of malaria in the U.S from 1994 thru 1995.[43] Unseasonably warm weather increases the transmission of malaria. Consequently, the IPCC reports that more than one million additional fatalities from malaria is estimated to occur by the middle of the next century due to global warming.[44]

Dengue and Dengue hemorrhagic fever is a painful flu-like illness transmitted by a mosquito bite that is increasing not only in the tropics, but also in the Americas.[45] Warmer temperatures contribute to the spreading of this disease to higher latitudes and altitudes.[46] In fact, dengue was "observed in Mexico at an unprecedented altitude of 1,700 meters during an unseasonably warm summer in 1988."[47] The IPCC report states that, when temperatures increase, more infectious mosquitos hatch resulting in more people being bitten.[48]

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[41] Id. at Table 18-3 (data on the diseases that are likely to be affected by climate change).

[42] Id. at 7.

[43] Malaria Surveillance – United States, 1995, http://www.cdc.gov/epo/mmwr/preview/mmwrhtml/00056518.htm (citing 1,167 cases of malaria in the U.S. in 1995).

[44] IPCC, Ex. 4 at 8.

[45] Id.

[46] Id.

[47] Id.

[48] Id.

Arboviral encephalitis is another vector-borne disease that is highly correlated to warm temperatures. Outbreaks of this disease have occurred in the U.S. after several days when the temperature exceeded eighty-five degrees Fahrenheit.[49] Heavy rainfall during winter months and drought during summer months is another predictor for this disease. The effect of global climate change predicted for the U.S. is warm, wet winters and hot, dry summers. These conditions foster an environment for the spread of arboviral encephalitis.[50]

Hantavirus is a deadly infectious disease caused by infected deer mice or cotton rats.[51] The CDC reported an outbreak of this illness in the southwest U.S in 1993.[52] This epidemic occurred when six years of drought preceded heavy spring rains.[53] This ecological change resulted in an increase of the rodent population ten times its normal size and, consequently, caused the outbreak of hantavirus.[54] Reports of this disease have occurred in the western U.S. and in a few eastern states.[55]

2. Increases in Water-borne Diseases.

During the past century, sea surface temperatures have

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[49] Jonathan A. Patz and Paul R. Epstein, et al., Global Climate Change and Emerging Infectious Diseases, JAMA 219-220 (1996) [hereinafter JAMA].

[50] Id. at 220.

[51] Center for Disease Control, Hantavirus, Public Information area, http://www.cdc.gov/ncidod/diseases/hanta/hps/noframes/consumer.htm.

[52] JAMA, at 217.

[53] Id.

[54] Id.

[55] Center for Disease Control, HPS Case Information, http://www.cdc.gov/ncidod/diseases/hanta/hps/noframes/whatsnew.htm.

increased 0.7 degrees Celsius.[56] Increased temperature and nutrient water promotes the growth of toxic algae.[57] Toxic algae is dangerous because it causes shell-fish poisoning which may harm humans, sea mammals, and sea birds.[58]

Increased algae growth can also stimulate the incidence of cholera. Zooplankton feeds on algae and can serve as a reservoir for Vibrio cholera.[59] Increased algae blooms may increase the proliferation of a cholera epidemic. In Latin America, large coastal algae blooms are suspected to have perpetuated a cholera epidemic.[60] The IPCC reports that cholera may increase in the U.S. as sea temperatures increase.[61]

The most widespread waterborne disease in the U.S. is cryptosporidiosis.[62] This disease occurs when floods, heavy rains, and snow melts cause run-off on agricultural dairy farms contaminating the water.[63] For example, in 1993, Milwaukee reported 403,000 cases of this disease after experiencing unusually heavy spring rains and melting snow.[64] Rising sea levels will also affect the spread of this disease because saline

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[56] IPCC, Ex. 4 at 8.

[57] JAMA at 220 (nutrient waters develop from fertilizer runoff and sewage releases).

[58] Id. and IPCC, Ex. 4 at 12 (explaining that a species of toxic algae that was previously confined to the Gulf of Mexico traveled north after "a parcel of warm gulf stream water" rose up the east coast and the result was human shellfish poisonings and substantial fishkills).

[59] IPCC, Ex. 4 at 8.

[60] Id.

[61] Id at 12.

[62] Id.

[63] Id.

[64] IPCC, Ex. 4 at 12.

water extends the viability of this disease.[65]

Thus, significant research has shown that climate change affects the spread of numerous and life-threatening vector-borne and water-borne diseases. To protect public health by reducing the threat and spread of these diseases, EPA must immediately regulate the emissions of greenhouse gases from new motor vehicles under § 202(a)(1).

(b). Global Warming Will Have Direct Effects on Human Health.

1. Increases in Heat Stress.

The EPA reports that "the most direct effect of climate change would be the impacts of hotter temperatures."[66] Hotter temperatures affect the young, the elderly, and people with heart problems and causes increased cases of heat exhaustion, respiratory problems, and even death.[67]

The IPCC reports that the U.S. is expected to "warm disproportionately more than tropical and subtropical zones."[68] The effects from this temperature increase can be determined by reviewing data from past heat waves. The IPCC explains that data taken from Philadelphia during 1973 to 1988 shows that there is a relationship between temperature, humidity, and

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[65] Id.

[66] EPA, global warming, http://www.epa.gov/globalwarming/impacts/health/index.html.

[67] Id. (explaining that higher temperatures increase ozone at ground level which can cause respiratory problems) and see Conference on Human Health and Global Climate Change, Ex. 2 at 9 (reporting that 726 people died in 1995 during a heatwave in Chicago).

[68] IPCC, Ex. 4 at 11.

mortality.[69] Based on data taken from several North American cities, the IPCC predicts that "the annual number of heat-related deaths would approximately double by 2020 and would increase several-fold by 2050."[70]

2. Increases in Skin Cancer, Cataracts, and Immune Suppression.

Greenhouse gases prevent heat from entering the stratosphere. As a result, ice crystal formations increase in the upper stratosphere destroying the ozone layer.[71] Ozone destruction increases the amount of ultraviolet-B radiation entering the earth's surface, which impacts public health by directly contributing to skin cancer, cataracts, and immune suppression.

A CDC report indicates that most of the top ten cancers declined between 1990 and 1995 except for incidence of skin cancer.[72] Skin cancer is the most common cancer in the U.S and the incidence of melanoma has doubled since 1973.[73] The U.S. National Cancer Institute explains that "[n]early all skin cancers occur in fair-skinned individuals who have been exposed to the sun, x-rays, or ultraviolet light for prolonged periods."[74] The participants at the Conference on Human Health and Global Climate Change predict that skin cancer will

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[69] Id.

[70] Id.

[71] Id. at 10.

[72] Center for Disease Control, 1998 News Release, http://www.cdc.gov/nchswww/releases/98news/98news/cancer.htm

[73] American Cancer Society, Skin Cancer - Melanoma, http://www3.cancer.org/cancerinfo/main_cont.asp?st=wi&ct=50.

[74] Id.

increase two percent for every one percent decrease in stratospheric ozone.[75]

Ultraviolet B-radiation is also associated with the development of cataracts. Half of the blindness in the world is attributed to cataracts.[76] IPCC predicts that a ten percent loss of stratospheric ozone will result in approximately 1.7 million additional cases of cataracts annually.[77]

Immune suppression is also a direct effect from global warming. The IPCC report states that "UV light has been shown to cause immune suppression in both animal and human studies."[78] Immunosuppression decreases the strength of the human immune system.

Therefore, the human health effects of climate change will also be exacerbated by increasing humans' susceptibility to heat stress, skin cancer, and cataracts. These direct threats to public health immediately mandate the EPA to regulate the emissions of greenhouse gases from new motor vehicles under § 202(a)(1).

(2). The Emission of Greenhouse Gases Will Endanger Public Welfare.

In addition to endangering public health, the emission of greenhouses gases will also harm the public welfare. Under the CAA, public "welfare" is defined as:

> All language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, manmade materials,

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[75] Conference on Human Health and Global Climate Change, Ex. 2 at 12.

[76] IPCC, Ex. 4 at 10.

[77] Id.

[78] Id.

> animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants.[79]

There have been numerous EPA findings that greenhouse gas emissions will endanger "public welfare" as defined by this section of the CAA. In fact, the EPA has researched the potential environmental impacts from climate change and reports that global warming will significantly harm the environment.

(a). Global Warming Will Harm Environmental Welfare.

The emission of greenhouse gases and the consequential effects of global warming will severely harm the quality of the United States environment. Global warming will harm, *inter alia*, water resources, rangelands, forests, non-tidal wetlands, fisheries and birds.

1. Harm to Water Resources.

Evaporation and precipitation is expected to increase due to global warming. The EPA predicts that "[l]ower river flows and lower lake levels could impair navigation, hydroelectric power generation, and water quality, and reduce the supplies of water available for agriculture, residential, and

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[79] 42 U.S.C. § 7602(h)(emphasis added); *See*, Engine Mfr. Ass'n, 88 F.3d at 1099 (Reaffirming the broad authority of the Administrator to make this determination).

industrial uses."[80] Furthermore, increased rainfall will likely result in flooding.[81]

2. Harm to Rangelands and Forests.

Global warming will likely harm grazing activities on both federal and private lands. The EPA predicts the decrease in the availability of water in these areas will harm the economic viability of grazing on rangelands.[82]

As temperatures increase, many North American forests will shift to the north.[83] The distance that trees will have to migrate will depend on how fast temperatures increase.[84] As temperatures increase, the soil will become drier, which will escalate the likelihood of forest fires.[85] Also, changes in pest populations will negatively affect the survival of forests.[86] Furthermore, the EPA reports that wildlife that depend on the habitat of nature reserves may be vulnerable because these areas may no longer be located in a climate suitable for the survival of many species.[87]

3. Harm to Non-tidal Wetlands.

Wetlands serve several purposes in protecting the environment. Wetlands provide a habitat for birds and fish and

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[80] EPA, Global Warming, http://www.epa.gov/globalwarming/impacts/water/index.html.

[81] Id.

[82] Id. at http://www.epa.gov/globalwarming/impacts/rangelands/index.html.

[83] Id. at http://www.epa.gov/globalwarming/impacts/forests/index.html.

[84] Id. (EPA recognizes the uncertainties that exist pertaining to changing climate and migrating forests).

[85] EPA, Global Warming, http://www.epa.gov/globalwarming/impacts/forests/index.html

[86] Id.

[87] Id.

also prevent run-off pollution from farms and other sources from entering rivers, lakes, and streams.[88] The EPA explains that the impact on wetlands from changing climate is uncertain because it depends on the amount of rainfall received by wetlands.[89] If wetland areas receive a decrease in rainfall, then the areas will become drier and significantly impair the wetland's function.[90] Dry land will force farmers to increase their use of irrigation which may further drain wetlands.[91] If the wetland areas receive an increase in rainfall, then flooding will occur.[92] Flooding will force people to move out of hazardous areas, which will benefit wetlands by allowing them to form. However, if people build dams in order to prevent flooding, which is likely, then the new structures, along with the decrease in flooding, will prevent wetlands from forming.[93]

4. Harm to Fisheries.

The EPA reports that climate change may impact inland fisheries, coastal fisheries, and ocean fisheries.[94] Increased water temperatures may be too warm for some species of fish.[95] Global warming might also harm many species of fish by changing the chemical composition of the water by decreasing the amount of oxygen and increasing the pollution and salinity

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[88] Id. at http://www.epa.gov/globalwarming/impacts/wetlands/index.html.

[89] Id.

[90] EPA, Global Warming, http://www.epa.gov/globalwarming/impacts/wetlands/index.html

[91] Id.

[92] Id.

[93] Id.

[94] EPA, Global Warming, http://www.epa.gov/globalwarming/impacts/fisheries/index.html.

[95] Id.

level.[96] Species that are dependent on wetlands for habitat and food would also be harmed if wetlands decrease.[97]

5. Harm to Bird Populations.

Global warming may impact birds by altering their life cycles. The National Audubon Society's bird data reveals that, during warming years, birds do not fly as far south and during the summer months, birds fly farther north.[98] The EPA indicates that this change in migration may be harmful to birds because the vegetation and insects they rely upon may take decades to synchronize with the birds' change in migration.[99]

Additionally, habitat loss due to global warming will impact many bird species. Rising sea levels will decrease estuarine beaches, which are habitats for the least tern, an endangered species.[100] The loss of wetlands and decreasing shellfish levels will also impact many species.[101]

As discussed above, EPA recognizes that the environmental welfare of the United States is impacted by the emission of greenhouse gases and the effects of global warming. The impacts include, *inter alia*, direct harm to our water resources, rangelands, forests, non-tidal wetlands, fisheries, and birds. Although there may be some uncertainties concerning the extent of these impacts from global warming, EPA must exercise precaution and mitigate these impacts by regulating the emissions of greenhouse gases from new motor

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[96] Id.

[97] Id.

[98] EPA, Global Warming, http://www.epa.gov/globalwarming/impacts/birds/index.html.

[99] Id.

[100] Id. at http://www.epa.gov/globalwarming/impacts/birds/index.html.

[101] Id.

vehicles under § 202(a)(1) of the CAA.

(b). Global Warming Will Harm Human Welfare.

The emission of greenhouse gases and resulting global warming will also severely harm the human welfare of the United States' population. Global warming will harm, *inter alia*, food production, nutritional health, weather patterns, sea-levels, water quality and quantity, and respiratory health.

1. Harm to Food Production and Nutritional Health.

Global warming is expected to change crop productivity.[102] Agricultural productivity may increase in some regions initially but longer-term adaptation is not as likely due to changes in plant physiology and the questionable availability of an adequate water supply.[103] Global warming may adversely affect agricultural production by reducing soil moisture through evapotranspiration and through extreme weather such as droughts, flooding, and tropical storms.[104] The IPCC report explains that one of the long term effects of global warming will be altered plant diseases and pest infestations.[105] As a result of these climate change affects on agriculture, an estimated 40-300 million additional people worldwide may be at risk from hunger.[106]

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[102] *See generally*, International Rice Research Institute and American Association for the Advancement of Science, "Climate and Food Security" 1989.

[103] Jonathan A. Patz, MD, MPH, "Public Health Effects of Climate Change: Synthesis of the IPCC Findings" Statement Prepared for a Roundtable Discussion of Senator Lieberman, 8 (June 11, 1996).

[104] IPCC, Ex. 4 at 8.

[105] Id.

[106] Id.

2. Weather Related Harm and Rising Sea Levels.

Extreme weather is predicted as a result of changing climate conditions.[107] More floods may occur due to the increased rain fall and more tropical cyclones are expected because of warmer sea surface temperatures.[108] Extreme weather will not only create physical harm and structural damage, but will also create breeding sites for insects and rodents carrying disease.[109] The IPCC anticipates that global warming will also encourage human dislocation from geographically vulnerable areas.[110] Droughts in West Africa have already forced mass migrations.[111]

Sea level rises are occurring rapidly in the U.S. The EPA estimates that "along the Gulf and Atlantic coasts, a one foot (30 cm) rise in sea level is likely by 2050 and could occur as soon as 2025. In the next century, a two foot rise is most likely, but a four foot rise is possible."[112] Developed areas will probably attempt to protect their property with bulkheads, dikes, and other structures, however, not all property will be protected and consequently, many people living in coastal areas will be forced to relocate.[113]

3. Harm to Water Quality and Quantity.

Rising sea levels will increase the salinity of surface and

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[107] IPCC, Ex. 4 at 9.

[108] Id.

[109] Id.

[110] Id.

[111] Id.

[112] EPA, Global Warming, http://www.epa.gov/globalwarming/impacts/coastal/index.html.

[113] Id.

ground water.[114] The EPA reports that New York, Philadelphia, and much of California's Central Valley will be susceptible to salty water during droughts if sea levels rise.[115] Climate effects will also increase flooding and water shortages.[116]

4. Harm From Air Pollution and Allergens.

The industrial processes that produce greenhouse gases also produce air pollutants.[117] In the U.S., air pollution causes 70,000 deaths and one million hospitalizations annually.[118] The participants at the Conference on Human Health and Global Climate Change predict that as pollution from greenhouse gases increases, "the health effects of air pollution on a global scale could be staggering."[119] Hotter temperatures and humidity may also lead to increased levels of plant pollen, which in turn would increase the cases of asthma and hay fever.[120]

In sum, significant scientific research and numerous EPA findings conclude that greenhouse gases will adversely affect human health and welfare in the United States by causing global warming. Based on these determinations, EPA must regulate the emissions of greenhouse gases from new motor vehicles under § 202(a)(1) of the CAA in order to mitigate the harmful impacts of global warming on both the environmental and human welfare.

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[114] Id. at http://www.epa.gov/globalwarming/impacts/coastal/index.html.

[115] Id. (some aquifers that are currently recharged by fresh water will become salty due to rising sea levels).

[116] IPCC, Ex. 4 at 9.

[117] Conference on Human Health and Global Climate Change, Ex. 2 at 13.

[118] Id.

[119] Id. at 14.

[120] Id.

II. IT IS TECHNICALLY FEASIBLE TO REDUCE GREENHOUSE GAS EMISSIONS FROM NEW MOTOR VEHICLES.

Agency action under § 202 will allow the EPA to implement a variety of regulatory standards to control greenhouse gas emissions. As contained in § 202, standards set under § 202 authority "shall be applicable to such vehicles and engines for the useful life . . . whether such vehicle or engines are designed as complete systems or incorporate devices to prevent the control of such pollution." Accordingly, this language allows the EPA latitude to utilize a number of options to address new motor vehicle greenhouse gas emissions so long as the options require the incorporation of complete systems or devices that reduce such emissions. Major automakers have already introduced car and truck designs that significantly reduce vehicle-related CO_2 formation, and many of these are already available to consumers and institutional purchasers at competitive prices. These vehicles generally rely on one of two strategies for reducing CO_2 emissions: increasing fuel economy and/or eliminating tailpipe emissions altogether. Standards assuring their rapid market adoption of these vehicles are necessary increases in new vehicle greenhouse gas emissions.

A. *Standards for Increased Corporate Average Fuel Economy.*[121]

According to the U.S. Department of Energy, "[T]he fuel economy of a vehicle is directly related to its emissions of carbon dioxide, the most important greenhouse gas." Furthermore, EPA added that:

> [E]ven though today's new vehicles cause much

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[121] Petitioners assert that Section 202 provides the EPA with the authority to implement a corporate average fuel-economy based standard.

> less air pollution than in the past, their greenhouse gas emissions are as high as they were 15 years ago. A vehicle's greenhouse gas emissions are directly related to its fuel economy. Every gallon of gasoline that you use in a vehicle adds about 20 pounds of carbon dioxide to the atmosphere."[122]

The Corporate Average Fuel Economy (CAFE) standard for 1999 is 27.5 mpg, though the actual average fuel economy is somewhat lower than this because automakers are permitted to employ credits generated through an averaging, banking, and trading program. Also, light trucks, which make up a growing segment of passenger vehicle sales, are subject to less stringent fuel economy standards. Complete vehicle systems and incorporated devices that would significantly reduce new vehicle CO_2 emissions are currently in development or on the road. For example, the Union of Concerned Scientists has developed a blueprint for a sport utility vehicle utilizing devices that would emit 32 percent less CO_2 than comparable models now for sale.[123]

In addition, automakers have shown that the technology is available to support a more stringent CAFE standard. For the 1999 model year, a number of traditional, gasoline-powered cars achieve fuel economy ratings of at least 40 mpg on the highway. These include the Chevrolet Metro (1.0 liter/3 cylinder engine, 41 mpg city/47 mpg highway); Honda Civic HX (1.6/4, 35/43), Mitsubishi Mirage (1.5/4, 33/40), Saturn SL (1.9/4, 29/40), Suzuki Swift (1.3/4, 39/40), and Toyota Tercel

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[122] U.S. DOE, "Model Year 1999 Fuel Economy Guide," DOE/EE-0178, (Washington, DC: October 1998) at 2.

[123] David Welch, "Fuel-Efficient Sport-Utility Is Envisioned," Detroit *News*, July 16, 1999, at E15.

(1.5/4, 32/40).[124]

Even better fuel economy ratings are achievable. In 1991, the Congressional Office of Technology Assessment established a list of strategies for improving vehicle fuel economy. Many remain viable. These automotive technology and design improvements include: weight reduction, aerodynamic drag reduction, improved tires and lubricants, advanced engine friction reduction, two-stroke engines, and continuously variable transmissions that ensure optimal vehicle efficiency at all speeds.[125]

B. Increased Adoption of Hybrid and Non-Fossil Fuel Vehicles.

The setting of standards under § 202 will create the rapid market introduction of hybrid-electric and zero emission vehicles. By encouraging the development of this technology, the agency can effectively reduce greenhouse gas emissions from new vehicles.

Hybrid technologies utilize entirely new systems combining a gasoline-powered engine and a battery-powered electric motor. The energy used to charge the battery is typically generated by the gasoline engine. Toyota has sold nearly 30,000 of its hybrid-electric Prius in Japan since December 1997, and plans to release the model in the United States in 2000. In a recent 4,200-mile cross-continent trip, the Prius demonstrated a fuel economy of over 60 miles per

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[124] Id.

[125] U.S. Congress, Office of Technology Assessment, *Improving Automobile Fuel Economy: New Standards, New Approaches*, OTA-E-504 (Washington, DC: U.S. Government Printing Office, October 1991) at 4.

gallon.[126] Other automakers are also working on hybrid models. Honda plans to begin selling the Insight hybrid-electric vehicle in the United States in December of this year. The company claims that the car will get 84 miles per gallon of gasoline. General Motors, Ford, and DaimlerChrysler are also developing hybrid-electric vehicles, which they may release for public sale as early as 2001.[127] The setting of new § 202-based CAFE standards by the EPA would greatly enhance market penetration of these vehicles.

In addition, other new complete vehicle systems exist for reducing new vehicle greenhouse gas emissions. According to the California Air Resources Board, there are at least 16 zero-emission production vehicles now available to consumers in at least some states. These are electric vehicles (EVs) and include models of the Dodge Caravan, Ford Ranger pickup, General Motors S-10 pickup, and Plymouth Voyager. Recent technological advancements have dramatically increased the range of EVs. The General Motors EV-1 with a nickel metal hydride battery can travel up to 152 miles on a single charge, while the Toyota RAV 4 and Nissan Alta EVs also boast ranges exceeding 100 miles per charge.[128] EVs have no tailpipe emissions and carry the potential to reduce all automobile-related CO_2 emissions to near zero. The agency itself has found that, "[I]f power plants produce electricity using clean energy sources such as solar or hydro power, emissions are

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[126] "Environmental Adventurers First to Cross the U.S. in a Hybrid-Electric Car," PR Newswire, July 9, 1999.

[127] "Honda Unveils Fuel Efficient Car," Associated Press, July 6, 1999.

[128] California Air Resources Board, "Buyer's Guide to Cleaner Cars," updated March 8, 1999, <http://www.arb.ca.gov/msprog/ccbg/ccbg.htm>.

negligible."[129]

Additionally, fuel cell vehicles may soon offer another zero-emissions option. A fuel cell combines hydrogen and oxygen in a chemical reaction that produces electricity. The exhaust of a fuel cell running on pure hydrogen consists of water and hot air. Ford has developed a research vehicle known as the P2000 HFC, which runs on a fuel cell and emits no CO_2 precursors. The company plans to begin testing about 45 fuel cell cars and buses in California over the next several years.[130] Other companies developing automotive fuel cell technologies include Ballard Power Systems, DaimlerChrysler, and Toyota.

Unfortunately, the Agency's proposed Tier II standard has inadequately addressed the effects of greenhouse gas emissions, including CO_2 emissions, from new vehicles.[131] Given the agency's intention of using the Tier II process to develop a regulatory framework that addresses future automobile pollution, petitioners believe that the authority provided under § 202 requires the agency to incorporate standards into its Tier 2 proposal that would combat global warming by limiting the amount of CO_2 pollution created by light duty vehicles. For example, establishing a declining NO_x fleet average in the proposed Tier II regulation would, in part, achieve such a goal by requiring manufacturers to increase the number of vehicles certified to the zero emission vehicles standards of proposed Bin 1.

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[129] U.S. Environmental Protection Agency, "Electric Vehicles," Fact Sheet OMS-10, EPA 400-f-92-012, August 1994.

[130] Ford Motor Co., "Ford Motor Company Fuel Cell Program Delivers Zero-Emission Family Vehicle," company press release, July 22, 1999.

[131] *See generally*, The International Center for Technology Assessment's Comments on the U.S. Environmental Protection Agency's Tier 2 Proposal (Public Docket No. A-97-10), August 2, 1999.

Given the scope of authority granted to the Administrator under §202 and the existence of the requisite technologies, the Administrator can set a number of new standards for devices incorporated into new vehicles that will reduce the emissions of greenhouse gas air pollutants.[132]

III. THE ADMINISTRATOR HAS A MANDATORY DUTY TO REGULATE GREENHOUSE GASES UNDER THE CLEAN AIR ACT.

Having already made formal findings that the emission of air pollutants CO_2, CH_4, N_2O, and HFCs from mobile sources poses actual or potential harmful effects of the public health and welfare,[133] the Administrator must exercise her authority to regulate the emissions of CO_2, CH_4, N_2O, and HFCs, from new motor vehicles under § 202(a)(1). Section 202(a) states that the Administrator "shall by regulation prescribe . . . standards applicable to any air pollutant from any . . . class or classes of new motor vehicles" (emphasis added). Prior court decisions have found that the use of "shall" in § 202 creates a mandatory duty to promulgate standards.[134] Accordingly, the Administrator must act to implement the standards requested by this petition.

Further, even should the agency believe that there are scientific uncertainties regarding the actual impacts from global

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[132] For example, such standards could even include such things as tire efficiency standards.

[133] See supra, Argument I (a) & (b).

[134] NRDC v. Reilly, 983 F.2d 259, 266-67 (D.C. Cir. 1993) (finding that use of "shall" in § 202(a)(6) mandated promulgation of standards requiring new light duty vehicles be equipped with onboard refueling vapor recovery systems); See also, Hewitt v. Helms, 459 U.S. 460, 471, 74 L.Ed.2d 675, 103 S.Ct. 864 (1983)("shall" is "language of an unmistakably mandatory character"); Her Majecty the Queen v. EPA, 912 F.2d 1525, 1533 (D.C. Cir. 1990) ("shall" signals mandatory action).

warming, the precautionary purpose of the CAA supports actions regulating of these gases. In Lead Industries Assoc., Inc. v. EPA, the court explained that:

> requiring EPA to wait until it can conclusively demonstrate that a particular effect is adverse to health before it acts is inconsistent with both the Act's precautionary and preventive orientation and the nature of the Administrator's statutory responsibilities . . . Congress directed the Administrator to err on the side of caution in making the necessary decisions.[135]

The Administrator's authority to use precaution when regulating air pollutants is also elaborated upon in Ethyl Corp. v. EPA.[136] In this case, the court stated that "[t]he Administrator may apply [her] expertise to draw conclusions from suspected, but not completely substantiated relationships between facts, from trends among facts, from theoretical projects from imperfect data, from probative preliminary data not yet certifiable as fact, and the like."[137] Thus, the Administrator's clear mandate to regulate greenhouse gases under § 202 cannot be excused by a post hoc rationalization of scientific uncertainty.

Based upon, *inter alia*, the evidence presented herein, the petitioners request the Administrator to immediately begin regulating the emissions of the greenhouse gases - CO_2, CH_4, N_2O, and HFCs - from new motor vehicles as required by § 202(a)(1). Should the Administrator not undertake this mandatory duty, her inaction can be subject to judicial review.

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[135] 647 F.2d 1130, 1155 (D.C. Cir. 1980).

[136] 541 F.2d 1 (D.C. Cir.) (en banc), *cert. denied*, 426 U.S. 941 (1976).

[137] Id. at 28.

CONCLUSION

WHEREFORE, petitioners request that the Administrator:[138]

(1). Regulate the emissions of carbon dioxide (CO_2) from new motor vehicles and new motor vehicle engines under § 202(a)(1) of the Clean Air Act;

(2). Regulate the emissions of methane (CH_4) from new motor vehicles and new motor vehicle engines under § 202(a)(1) of the Clean Air Act;

(3). Regulate the emissions of nitrous oxide (N_20) from new motor vehicles and new motor vehicle engines under § 202(a)(1) of the Clean Air Act;

(4). Regulate the emissions of hydrofluorocarbons (HFCs) from new motor vehicles and new motor vehicle engines under § 202(a)(1) of the Clean Air Act;

As required by law, the EPA is required to give this petition prompt consideration. Additionally, under the Administrative Procedure Act "agency action" is defined to include "the whole or part of an agency rule, order, license, sanction, relief, or the equivalent denial thereof, *or failure to act.*" Therefore, petitioners are requesting a substantive response to this petition within one hundred eighty (180) calender days.[139] In the absence of an affirmative response, petitioners will be compelled to consider litigation in order to

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[138] Rulemaking undertaken pursuant to this petition must comply with the requirements contained in § 307(d), 42 U.S.C. § 7607(d).

[139] Petitioners note that a response period of 180 days is reasonable under the APA. See, 42 U.S.C. § 7604(a) requiring notice of 180 days prior to commence of an action for unreasonable delay. See also, 21 C.F.R. §10.30(e)(2) (1998) (FDA's implementation of the Administrative Procedure Act's petitioning provisions).

achieve the agency actions requested.[140]

Respectfully submitted,

s/

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[140] Petitioners also assert that through the filing of this petition they have complied with citizen suit notice requirements established in § 304, 42 U.S.C. § 7604..

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

Office of
General Counsel

April 10, 1998 [date stamped]

MEMORANDUM

SUBJECT: EPA's Authority to Regulate Pollutants Emitted by Electric Power Generation Sources

FROM: Jonathan Z. Cannon /s
General Counsel

TO: Carol M. Browner
Administrator

I. Introduction and Background

This opinion was prepared in response to a request from Congressman DeLay to you on March 11, 1998, made in the course of a Fiscal Year 1999 House Appropriations Committee Hearing. In the Hearing, Congressman Delay referred to an EPA document entitled "Electricity Restructuring and the Environment: What Authority Does EPA Have and What Does It Need." Congressman Delay read several sentences from the document stating that EPA currently has authority under the Clean Air Act (Act) to establish pollution control requirements

for four pollutants of concern from electric power generation: nitrogen oxides (NO_x), sulfur dioxide (SO_2), carbon dioxide (CO_2) and mercury. He also asked whether you agreed with the statement, and in particular, whether you thought that the Clean Air Act allows EPA to regulate emissions of carbon dioxide. You agreed with the statement that the Clean Air Act grants EPA broad authority to address certain pollutants, including those listed, and agreed to Congressman Delay's request for a legal opinion on this point. This opinion discusses EPA's authority to address all four of the pollutants at issue in the colloquy, and in particular, CO_2 which was the subject of Congressman DeLay's specific question.

The question of EPA's legal authority arose initially in the context of potential legislation addressing the restructuring of the utility industry. Electric power generation is a significant source of air pollution, including the four pollutants addressed here. On March 25, 1998, the Administration announced a Comprehensive Electricity Competition Plan (Plan) to produce lower prices, a cleaner environment, increased innovation and government savings. This Plan includes a proposal to clarify EPA's authority regarding the establishment of a cost-effective interstate cap and trading system for NO_x reductions addressing the regional transport contributions needed to attain and maintain the primary National Ambient Air Quality Standards (NAAQS) for ozone. The Plan does not ask Congress for authority to establish a cap and trading system for emissions of carbon dioxide from utilities as part of the Administration's electricity restructuring proposal. The President has called for cap-and-trade authority for greenhouse gases to be in place by 2008, and the Plan states that the Administration will consider in consultation with Congress the legislative vehicle most appropriate for that purpose.

As this opinion discusses, the Clean Air Act provides EPA authority to address air pollution, and a number of specific provisions of the Act are potentially applicable to control these pollutants from electric power generation. However, as was made clear in the document from which Congressman Delay quoted, these potentially applicable provisions do not easily lend themselves to establishing market-based national or regional cap-and-trade programs, which the Administration favors for addressing these kinds of pollution problems.

II. Clean Air Act Authority

The Clear Air Act provides that EPA may regulate a substance if it is (a) an "air pollutant," and (b) the Administrator makes certain findings regarding such pollutant (usually related to danger to public health, welfare, or the environment) under one or more of the Act's regulatory provisions.

A. Definition of Air Pollutant

Each of the four substances of concern as emitted from electric power generating units falls within the definition of "air pollutant" under section 302(g). Section 302(g) defines "air pollutant" as

> any air pollution agent or combination of such agents, including any physical, chemical, biological, [or] radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air. Such term includes any precursors to the formation of any air pollutant, to the extent that the Administrator has identified such precursor or precursors for the particular purpose for which the term "air pollutant" is used.

This broad definition states that "air pollutant" includes any physical, chemical, biological, or radioactive substance or matter that is emitted into or otherwise enters the ambient air. SO_2, NO_x, CO_2 and mercury from electric power generation are each a "physical [and] chemical . . . substance which is emitted into . . . the ambient air," and hence, each is an air pollutant within the meaning of the Clean Air Act.[1]

A substance can be an air pollutant even though it is naturally present in air in some quantities. Indeed, many of the pollutants that EPA currently regulates are naturally present in the air in some quantity and are emitted from natural as well as anthropogenic sources. For example, SO_2 is emitted from geothermal sources; volatile organic compounds (precursors to ozone) are emitted by vegetation; and particulate matter and NO_x are formed from natural sources through natural processes, such as naturally occurring forest fires. Some substances regulated under the Act as hazardous air pollutants are actually necessary in trace quantities for human life, but are toxic at higher levels or through other routes of exposure. Manganese and selenium are two examples of such pollutants. EPA regulates a number of naturally occurring substances as air pollutants, however, because human activities have increased the quantities present in the air to levels that are harmful to public health, welfare, or the environment.

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[1] See also section 103(g) of the Act (authorizes EPA to conduct a basic research and technology program to develop and demonstrate nonregulatory strategies and technologies for air pollution prevention, which shall include among the program elements "[i]mprovements in nonregulatory strategies and technologies for preventing or reducing multiple air pollutants, including sulfur oxides, nitrogen oxides, heavy metals, PM-10 (particulate matter), carbon monoxide, and carbon dioxide, from stationary sources, including fossil fuel power plants.").

B. EPA Authority to Regulate Air Pollutants

EPA's regulatory authority extends to air pollutants, which, as discussed above, are defined broadly under the Act and include SO_2, NO_x, CO_2, and mercury emitted into the ambient air. Such a general statement of authority is distinct from an EPA determination that a particular air pollutant meets the specific criteria for EPA action under a particular provision of the Act. A number of specific provisions of the Act are potentially applicable to these pollutants emitted from electric power generation.[2] Many of these specific provisions for EPA

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[2] See, e.g.,section 108 (directs Administrator to list and issue air quality criteria for each air pollutant that causes or contributes to air pollution that may reasonably be anticipated to endanger public health or welfare and that is present in the ambient air due to emissions from numerous or diverse mobile or stationary sources); section 109 (directs Administrator to promulgate national primary and secondary ambient air quality standards for each air pollutant for which there are air quality criteria, to be set at levels requisite to protect the public health with an adequate margin of safety (primary standards) and to protect welfare (secondary standards)); Section 110 (requires states to submit state implementation plans (SIPs) to meet standards); section 111(b) (requires Administrator to list, and set federal performance standards for new sources in, categories of stationary sources that cause of contribute significantly to air pollution that may reasonably be anticipated to endanger public health or welfare); section 111(d) (states must establish performance standards for existing sources for any air pollutant (except criteria pollutants or hazardous air pollutants) that would be subject to a performance standard if the source were a new source); section 112(b) (lists 188 hazardous air pollutants and authorizes Administrator to add pollutants to the list that may present a threat of adverse human health effects or adverse environmental effects); section 112(d) requires Administrator to set emissions standards for each category or subcategory of major and area sources that the Administrator has listed pursuant to section 112(c)); section 112(n)(1)(A) (requires Administrator to study and report to Congress on the public health hazards reasonably anticipated from emissions of listed hazardous air pollutants from electric utility steam

(continued...)

action share a common feature in that the exercise of EPA's authority to regulate air pollutants is linked to a determination by the Administrator regarding the air pollutants' actual or potential harmful effects on public health, welfare or the environment. See, e.g., sections 108, 109, 111(b), 112, and 115. See also sections 202(a), 211(c), 231, 612, and 615. The legislative history of the 1977 Clean Air Act Amendments provides extensive discussion of Congress' purposes in adopting the language used throughout the Act referencing a reasonable anticipation that a substance endangers public health or welfare. One of these purposes was "[t]o emphasize the preventative or precautionary nature of the act, i.e., to assure that regulatory action can effectively prevent harm before it occurs; to emphasize the predominant value of protection of public health." H.R. Rep. No. 95-294, 95th Cong., 1st Sess., at 49 (Report of the Committee on Interstate and Foreign Commerce). Another purpose was "[t]o assure that the health of susceptible individuals, as well as healthy adults, will be encompassed in the term 'public health,' . . . ." Id. at 50. "Welfare" is defined in section 302(h) of the Act, which states:

> [a]ll language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, man-made materials, animals, wildlife, weather, visibility, and

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[2] (...continued)
generating units, and requires regulation if appropriate and necessary); section 115 (Administrator may require state action to control certain air pollution if, on the basis of certain reports, she has reason to believe that any air pollutant emitted in the United States causes or contributes to air pollution that may be reasonably anticipated to endanger public health or welfare in a foreign country that has given the United States reciprocal rights regarding air pollution control); Title IV (establishes cap-and-trade system for control of SO_2 from electric power generation facilities and provides for certain controls on NO_x).

> climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants.[3]

EPA has already regulated SO_2, NO_x and mercury based on determinations by EPA or Congress that these substances have negative effects on public health, welfare, or the environment. While CO_2, as an air pollutant, is within EPA's scope of authority to regulate, the Administrator has not yet determined that CO_2 meets the criteria for regulation under one or more provisions of the Act. Specific regulatory criteria under various provisions of the Act could be met if the Administrator determined under one or more of those provisions that CO_2 emissions are reasonably anticipated to cause or contribute to adverse effects on public health, welfare, or the environment.

C. EPA Authority to Implement an Emissions Cap-and-Trade Approach

The specific provisions of the Clean Air Act that are potentially applicable to control emissions of the pollutants discussed here can largely be categorized as provisions relating to either state programs for pollution control under Title I (e.g., sections 107, 108, 109, 110, 115, 126, and Part D of Title I), or national regulation of stationary sources through technology-based standards (e.g., sections 111 and 112). None of these provisions easily lends itself to establishing market-based

[3] The language in section 302(h) listing specific potential effects on welfare, including the references to weather and climate, dates back to the 1970 version of the Clean Air Act.

national or regional emissions cap-and-trade programs.[4]

The Clean Air Act provisions relating to state programs do not authorize EPA to require states to control air pollution through economically efficient cap-and-trade programs and do not provide full authority for EPA itself to impose such programs. Under certain provisions in Title I, such as section 110, EPA may facilitate regional approaches to pollution control and encourage states to cooperate in a regional, cost-effective emissions cap-and-trade approach (see Notice of Proposed Rulemaking: Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone, 62 F.R. 60318 (Nov. 7, 1997)). EPA does not have authority under Title 1 to require states to use such measures, however, because the courts have held that EPA cannot mandate specific emission control measures for states to use in meeting the general provisions for attaining ambient air quality standards. See Commonwealth of Virginia v. EPA, 108 F.3d 1397 (D.C. Cir. 1997). Under certain limited circumstances where states fail to carry out their responsibilities under Title 1 of the Clean Air Act, EPA has authority to take certain actions, which might include establishing a cap-and-trade program.[5] Yet EPA's ability to

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[4] Title IV of the Act provides explicit authority for a cap and trade program for SO_2 emissions from electric power generating sources.

[5] For example, section 110(c) requires EPA to promulgate a Federal implementation plan where EPA finds that a state has failed to make a required submission of a SIP or that the SIP or SIP revision does not satisfy certain minimum criteria, or EPA disapproves the SIP submission in whole or part. In addition, section 126 provides that a State or political subdivision may petition the Administrator for certain findings regarding emissions from certain stationary sources in another state. If the Administrator grants the petition, she may establish control requirements applicable to sources that (continued...)

invoke these provisions for federal action depends on the actions or inactions of the states.

Technology-based standards under the Act directed to stationary sources have been interpreted by EPA not to allow compliance through intersource cap-and-trade approaches. The Clean Air Act provisions for national technology-based standards under sections 111 and 112 require EPA to promulgate regulations to control emissions of air pollutants from stationary sources. To maximize the opportunity for trading of emissions within a source, EPA has defined the term "stationary source" expansively, such that a large facility can be considered a "source." Yet EPA has never gone so far as to define as a source a group of facilities that are not geographically connected, and EPA has long held the view that trading across plant boundaries is impermissible under sections 111 and 112. See, e.g., National Emission Standards for Hazardous Air Pollutants for Source Categories; Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry, 59 Fed. Reg. 19402 at 19425-26 (April 22, 1994).

III. Conclusion

EPA's regulatory authority under the Clean Air Act extends to air pollutants, which, as discussed above, are defined broadly under the Act and include SO_2, NO_x, CO_2 and mercury emitted into the ambient air. EPA has in fact already regulated each of these substances under the Act, with the exception of CO_2. While CO_2 emissions are within the scope of EPA's authority to regulate, the Administrator has made no determination to date to exercise that authority under the specific criteria provided under any provision of the Act.

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[5] (...continued)
were the subject of the petition.

With the exception of the SO_2 provisions focused on acid rain, the authorities potentially available for controlling these pollutants from electric power generating sources do not easily lend themselves to establishing market-based national or regional cap-and-trade programs, which the Administration favors for addressing these kinds of pollution problems. Under certain limited circumstances, where states fail to carry out their responsibilities under Title 1 of the Act, EPA has authority to take certain actions, which might include establishing a cap-and-trade program. However, such authority depends on the actions or inactions of the states.

[from EPA administrative record]

TESTIMONY OF
GARY S. GUZY
GENERAL COUNSEL
U.S. ENVIRONMENTAL PROTECTION AGENCY
BEFORE A JOINT HEARING OF THE
SUBCOMMITTEE ON NATIONAL ECONOMIC GROWTH,
NATURAL RESOURCES AND REGULATORY AFFAIRS
OF THE
COMMITTEE ON GOVERNMENT REFORM
AND THE
SUBCOMMITTEE ON ENERGY AND ENVIRONMENT OF
THE COMMITTEE ON SCIENCE
U.S. HOUSE OF REPRESENTATIVES

October 6, 1999

Thank you, Chairman McIntosh, Chairman Calvert, and Members of the Subcommittees, for the invitation to appear here today. I am pleased to have this opportunity to explain the U.S. Environmental Protection Agency's (EPA) views as to the legal authority provided by the Clean Air Act (Act) to regulate emissions of carbon dioxide, or CO_2.

Before I do, however, I would like to stress, as EPA repeatedly has stated in letters to Chairman McIntosh and other Members of Congress, that the Administration has no intention of implementing the Kyoto Protocol to the United Nations Framework Convention on Climate Change prior to its ratification with the advice and consent of the Senate.1 As I indicated in my letter of September 17, 1999 to Chairman

McIntosh, there is a clear difference between actions that carry out authority under the Clean Air Act or other domestic law, and actions that would implement the Protocol. Thus, there is nothing inconsistent in assessing the extent of current authority under the Clean Air Act and maintaining our commitment not to implement the Protocol without ratification.

Some brief background information is helpful in understanding the context for this question of legal authority. In the course of generating electricity by burning fossil fuels, electric power plants emit into the air multiple substances that pose environmental concerns, several of which are already subject to some degree of regulation. Both industry and government share an interest in understanding how different pollution control strategies interact. These interactions are both physical (strategies for controlling emissions of one substance can affect emissions of others) and economic (strategies designed to address two or more substances together can cost substantially less than strategies for individual pollutants that are designed and implemented independently). EPA has worked with a broad array of stakeholders to evaluate multiple-pollutant control strategies for this industry in a series of forums, dating back to the Clean Air Power Initiative (CAPI) in the mid-1990's. While the CAPI process focused on SO_2 and NO_x, a broad range of participants, including representatives of power generators, the United Mine Workers, and environmentalists, expressed support for inclusion of CO_2 emissions, along with SO_2, NO_x, and mercury, in subsequent analyses. One conclusion that emerged from these analytical efforts is that integrated strategies using marked-based "cap-and-trade" approaches like the program currently in place to address acid rain would be the most flexible and lowest cost means to control multiple pollutants from these sources.

On March 11, 1998, during hearings on EPA's FY 1999

appropriations, Representative DeLay asked the Administrator whether she believed that EPA had authority to regulate emissions of pollutants of concern from electric utilities, including CO_2. She replied that the Clean Air Act provides such authority, and agreed to Representative Delay's request for a legal opinion on this point.

Therefore, my predecessor, Jonathan Z. Cannon, prepared a legal opinion for EPA Administrator Carol Browner on the question of EPA's legal authority to regulate several pollutants, including CO_2 emitted by electric power generation sources. The legal opinion requested by Rep. DeLay was completed on April 10, 1998. It addressed the Clean Air Act authority to regulate emissions of four pollutants of concern from electric power generation: nitrogen oxides (NO_x), sulfur dioxide (SO_2), mercury, and CO_2. Because today's hearing is focused exclusively on CO_2, I will summarize the opinion's conclusions only as they relate to that substance.

The Clean Air Act includes a definition of the term "air pollutant," which is the touchstone of EPA's regulatory authority over emissions. Section 302(g) defines "air pollutant" as

> any air pollution agent or combination of such agents, including any physical, chemical, biological, [or] radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air. Such term includes any precursors to the formation of any air pollutant, to the extent that the Administrator has identified such precursor or precursors for the particular purpose for which the term "air pollutant" is used.

Mr. Cannon noted that CO_2 is a "physical [and] chemical substance which is emitted into . . . the ambient air," and thus

is an "air pollutant" within the Clean Air Act's definition. Congress explicitly recognized emissions of CO_2 from stationary sources, such as fossil fuel power plants, as an "air pollutant"in section 103(g) of the Act, which authorizes EPA to conduct a basic research and technology program to include, among other things, "[i]mprovements in nonregulatory strategies and technologies for preventing or reducing multiple *air pollutants, including* sulfur oxides, nitrogen oxides, heavy metals, PM-10 (particulate matter), carbon monoxide, *and carbon dioxide*, from stationary sources, including fossil fuel power plants." (Emphasis added.)

The opinion explains further that the status of CO_2 as an "air pollutant" is not changed by the fact that CO_2 is a constituent of the natural atmosphere. In other words, a substance can be an "air pollutant" under the Clean Air Act's definition even if it has natural sources in addition to its man-made sources. EPA regulates a number of naturally-occurring substances as air pollutants because human activities have increased the quantities present in the air to levels that are harmful to public health, welfare, or the environment. For example, SO_2 is emitted from geothermal sources; volatile organic compounds (VOCs), which are precursors to harmful ground-level ozone, are emitted by vegetation. Some substances regulated under the Act as hazardous air pollutants are actually necessary in trace quantities for human life, but are toxic at higher levels or through other routes of exposure. Manganese and selenium are two examples of such pollutants. Similarly, in the water context, phosphorus is regulated as a pollutant because although it is a critical nutrient for plants, in excessive quantities it kills aquatic life in lakes and other water bodies.

While CO_2, as an "air pollutant," is within the scope of the regulatory authority provided by the Clean Air Act, this by itself does not lead to regulation. The Clean Air Act includes

a number of regulatory provisions that may potentially be applied to an air pollutant. But before EPA can actually issue regulations governing a pollutant, the Administrator must first make a formal finding that the pollutant in question meets specific criteria laid out in the Act as prerequisites for EPA regulation under its various provisions. Many of these specific Clean Air Act provisions for EPA action share a common feature in that the exercise of EPA's authority to regulate air pollutants is linked to a determination by the Administrator regarding the air pollutant's actual or potential harmful effects on public health, welfare or the environment. For example, EPA has authority under section 109 of the Act to establish National Ambient Air Quality Standards for any air pollutant for which the Administrator has established air quality criteria under section 108. Under section 108, the Administrator must first find that the air pollutant in question meets several criteria, including that:

> it causes or contributes to "air pollution which may reasonably be anticipated to endanger public health or welfare," and
>
> its presence in the ambient air "results from numerous or diverse mobile or stationary sources . . ."

Section 302(h), a provision dating back to the 1970 version of the Clean Air Act, defines "welfare" and states:

> all language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, man-made materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination

with other air pollutants.

Thus, since 1970, the Clean Act has included effects on "climate" as a factor to be considered in the Administrator's decision as to whether to list an air pollutant under section 108.

Analogous threshold findings are required before the Administrator may establish new source performance standards for a pollutant under section 111, list and regulate the pollutant as a hazardous air pollutant under section 112, or regulate its emission from motor vehicles under Title II of the Act.

Given the clarity of the statutory provisions defining "air pollutant" and providing authority to regulate air pollutants, there is no statutory ambiguity that could be clarified by referring to the legislative history. Nevertheless, I would note that Congress' decision in the 1990 Amendments not to adopt additional provisions directing EPA to regulate greenhouse gases by no means suggests that Congress intended to limit *pre-existing* authority to address any air pollutant that the Administrator determines meets the statutory criteria for regulation under a specific provision of the Act.

I would like today to reiterate one of the central conclusions of the Cannon memorandum, which stated: "While CO_2, as an air pollutant, is within EPA's scope of authority to regulate, the Administrator has not yet determined that CO_2 meets the criteria for regulation under one or more provisions of the Act." That statement remains true today. EPA has not made any of the Act's threshold findings that would lead to regulation of CO_2 emissions from electric utilities or, indeed, from any source. The opinion of my predecessor simply clarifies--and I endorse this opinion--that CO_2 is in the class of compounds that could be subject to several of the Clean Air Act's regulatory approaches. Thus, I would suggest that many of the concerns raised about the statutory authority to address CO_2 relate more

to factual and scientific, rather than legal, questions regarding whether and how the criteria for regulation under the Clean Air Act could be satisfied.

I also want to note, however, EPA has strongly promoted voluntary partnerships to reduce emissions of greenhouse gases through the EnergyStar and Green Lights programs and other non-regulatory programs that Congress has consistently supported. These successful programs already have over 7,000 voluntary partners who are taking steps to reduce greenhouse gas emissions, reduce energy costs and help address local air pollution problems. These programs also help the United States meet its obligations under the United Nations Framework Convention on Climate Change, which was ratified in 1992. I would also note, as EPA has indicated in past correspondence withe Chairman McIntosh and others, in the course of carrying out the mandates of the Clean Air Act, EPA has in a few instances directly limited use or emissions of certain greenhouse gases other than CO_2. For example, EPA has limited the use of certain substitutes for ozone-depleting substances under Title VI of the Act, where those substitutes have very high global warming potentials. I wish to stress once more, however, that while EPA will pursue efforts to address the threat of global warming through the voluntary programs authorized and funded by Congress and will carry out the mandates of the Clean Air Act, this Administration has no intention of implementing the Kyoto Protocol prior to its ratification on the advice and consent of the Senate.

This concludes my prepared statement. I would be happy to answer any questions that you may have.

[from EPA administrative record]

[US EPA Symbol]

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

Office of
General Counsel

December 1, 1999 [Date Stamped]

Honorable David M. McIntosh
Chairman, Subcommittee on National Economic Growth,
Natural Resources and Regulatory Affairs
Committee on Government Reform
U.S. House of Representatives
2157 Rayburn House Office Building
Washington, DC 20515-6143

Dear Mr. Chairman:

I am writing in response to your letter of October 14, 1999, which follows up on certain issues raised at the October 6, 1999, joint hearing conducted by the Government Reform

Subcommittee on National Economic Growth, Natural Resources and Regulatory Affairs and the Science Subcommittee on Energy and the Environment. Attached are our responses to your questions.

Please let me know if we can be of further assistance, or please have your staff contact Alexandra Teitz of my office at 202/564-5594.

Sincerely,

s/Gary S. Guzy

General Counsel

1. What in your judgement is the significance of the fact that the Clean Air Act refers to carbon dioxide (CO_2) only in reference to non-regulatory activities, such as research and technology development, while it specifically identifies hundreds of other substances to be regulated by the Environmental Protection Agency (EPA)?

In certain provisions of the Clean Air Act (CAA), Congress has delegated to EPA authority to regulate any air pollutant if the Administrator finds that the pollutant meets the criteria in the provision. For example, section 108 does not name any specific pollutants, but rather provides the criteria for EPA to use in determining whether to list and regulate a pollutant. In relevant part, the section requires the Administrator to list each air pollutant "emissions of which, . . . may reasonably be anticipated to endanger public health or welfare . . ." Section 112 contains a specific list of hazardous air pollutants, but also authorizes the Administrator to add other air pollutants to that list and provides the criteria for the Administrator to apply in making such determinations. A number of other Clean Air Act provisions are similarly structured. Specific mention of a pollutant in a statutory provision is not a necessary prerequisite to regulation under many CAA statutory provisions.

2. Your testimony cites Section 103(g) as proof that CO_2 is a "pollutant" within the meaning of the Clean Air Act. Yet, that very section directs the Administrator to develop "non-regulatory" strategies, and concludes with an admonition: "Nothing in this subsection shall be construed to authorize the imposition on any person of pollution control requirements." Similarly, the only provision of the Clean Air Act to mention global warming, section 602(e) stipulates: "The preceding sentence shall not be construed to be the basis of any additional regulation under this chapter." How do you interpret these Congressional

restrictions?

Congress explicitly recognized CO_2 emitted from stationary sources, such as fossil fuel power plants, as an "air pollutant" in section 103(g) of the Act, which authorizes EPA to conduct a basic research and technology program to include, among other things, "[i]mprovements in nonregulatory strategies and technologies for preventing or reducing multiple air pollutants, including . . . carbon dioxide, from stationary sources, ..." (Emphasis added.) EPA agrees that section 103(g) and section 602(e) do not themselves provide authority to regulate. However, the language that you have cited limiting the authority provided by those sections to research activities does not affect the fact that Congress recognized CO_2 as an air pollutant in section 103(g). Nor does the language in sections 103(g) and 602(e) limit in any way the regulatory authority provided by other provisions of the Clean Air Act.

3. During the hearing, Professor Jeffrey Miller argued that the absence of express statutory authority to regulate CO_2 is not significant because the Clean Air Act authorizes the Administrator to revise or add to the list of regulated substances. However, the Clean Air Act always confers such listing authority in the context of specific regulatory schemes designed to address specific kinds of problems. For example, there is a "criteria" pollutants program to reduce emissions of substances that adversely affect ambient air quality, a "hazardous" pollutants program to control emissions of toxic substances, and a stratospheric ozone protection program to phase out ozone-depleting substances. There is no comparable program to reduce, control, or phase-out emission of greenhouse gases. What in your judgement is the significance of the fact that the Clean Air Act contains no subchapter or section on global climate change? What is the significance of the fact that the

Act nowhere expressly authorizes the Administrator to list and promulgate regulations to control substances that may be reasonably anticipated to cause or contribute to global warming?

To answer your question, it is critical to understand how the structure of the Clean Air Act has evolved over time. The current Clean Air Act is the product of a series of enactments over the last 30 years, most importantly the amendments of 1970, 1977, and 1990. In the 1970 Clean Air Act, for example, Congress provided the Agency general authority to identify and regulate various types of air pollutants or sources (e.g., criteria pollutants under sections 108 and 109, new sources under section 111, or hazardous air pollutants under section 112). These 1970 provisions generally did not name specific pollutants or source types. EPA used those authorities in the following years to identify and set standards for a number of air pollutants (e.g., the National Ambient Air Quality Standards (NAAQS) for such air pollutants as ozone, sulfur dioxide, and particulate matter). After EPA took action under these general authorities, Congress has sometimes provided more specific authority. For example, the 1977 and 1990 amendments included specific mandates to periodically review and update the NAAQS that EPA had already set, and set forth refined approaches to the implementation of those standards. In this context it is not surprising to find 1977-and 1990-vintage provisions that specifically name ozone or other pollutants that EPA had already placed under regulation. In some areas, the 1977 and 1990 amendments include specific provisions mandating the regulation of one or more pollutants as to which EPA had not yet used its general authority. These more specific enactments generally left intact, and in some cases extended, EPA's general authority to identify and regulate additional air pollutants if they meet the criteria of relevant sections of the Act. Thus, the absence of specific provisions

addressing a particular air pollution problem does not mean that EPA lacks authority to address that problem.

Since 1970, the Clean Air Act has contained various provisions authorizing regulation to address air pollutants' actual or potential harmful effects on public health, welfare or the environment. For example, sections 107, 108, 109, 111(b), 112, 202, and 231, among others, date from the 1970 Act, although they have been modified since. The courts have long recognized that Congress need not address every question that could arise under a statutory scheme for an agency to have authority to act. "The power of an administrative agency to administer a congressionally created . . . program necessarily requires the formulation of policy and the making of rules to fill any gap left, implicitly or explicitly, by Congress. "*Chevron v. NRDC*, 467 U.S. 837, 843, (1984), *quoting Morton v. Ruiz*, 415 U.S. 199, 231 (1974)". In *Chevron*, the court discussed the variety of reasons why Congress might not have addressed a particular issue. "Perhaps that body consciously desired the Administrator to strike the balance at this level, thinking that those with great expertise and charged with responsibility for administering the provision would be in a better position to do so; perhaps it simply did not consider the question at this level; and perhaps Congress was unable to forge a coalition on either side of the question, and those on each side decided to take their chances with the scheme devised by the agency." *Id.* at 865. The court in *Chevron* recognized that Congress' failure to direct an agency on a specific issue, where Congress has given the agency broad power to act, constitutes an explicit or implicit delegation of authority for the agency to decide the issue. Thus, where Congress has provided EPA broad authority, with criteria for exercising such authority, the fact that Congress did not speak to how the Agency should exercise such authority with respect to each individual air pollutant or air pollution issue, does not limit EPA's delegated

authority.

4. In section 112 of the Clean Air Act, Congress specifically named 190 hazardous air pollutants (HAPs), but did not include CO_2 in the list. Each of the substances listed is highly toxic and endangers health or the environment through direct exposure, not indirectly through a chain of secondary effects as in the supposed case of greenhouse warming. By what scientific logic or statutory construction could EPA list CO_2 as a HAP?

EPA has not concluded that CO_2 is a hazardous air pollutant. As we have stated, EPA would have authority to regulate CO_2 under section 112 *if* a finding were made that CO_2 presented a threat of "adverse environmental effects," as section 112 uses that phrase. Section 112(a)(7) defines "adverse environmental effect" as "any significant and widespread adverse effect, which may reasonably be anticipated, to wildlife, aquatic life, or other natural resources, including adverse impacts on populations of endangered or threatened species or significant degradation of environmental quality over broad areas." Furthermore, air pollutants may be added to the list due to adverse environmental effects that occur not only through ambient concentrations, but also "bioaccumulation, deposition or otherwise." Thus, the substances that may be added to the list of hazardous air pollutants under section 112(b) are not limited to those that are "highly toxic and endanger[] health or the environment through direct exposure."

5. Could EPA have phased out Freon 12 and other non-toxic ozone-depleting substances under its authority to regulate HAPs, or did EPA require new and specific authority such as conferred by Subchapter VI? If the HAPs regulatory framework is unsuited to control substances that deplete the ozone layer, why is it not unsuited to control substances suspected of enhancing the greenhouse effect?

EPA has not evaluated whether it would have had authority to phase out ozone-depleting substances under section 112 of the Act. Congress gave EPA explicit and more detailed authority to address ozone-depleting substances under section 157 of the 1977 Clean Air Act and under Title VI of the Clean Air Act as Amended in 1990. Thus, the issue of whether EPA had authority under other provisions of the Act never arose.

6. Could EPA have phased out Freon 12 and other ozone-depleting substances under the National Ambient Air Quality Standards (NAAQS) program, or did EPA require new and specific authority such as conferred by Subchapter VI? If the NAAQS regulatory framework is unsuited to control substances that deplete the ozone layer, why is it not also unsuited to control substances suspected of enhancing the greenhouse effect?

EPA has not evaluated whether it has authority to phase out ozone-depleting substances under the NAAQS program. Please see the answer to question 5.

7. EPA contends that the NAAQS program is a potential source of authority to regulate emissions of CO_2. However as section 107(a) of the Clean Air Act makes clear, "ambient" air is that which surrounds people and communities in particular "geographic" areas or regions. Indeed, EPA's own definition of "ambient air" is "that portion of the atmosphere, external to buildings, to which the general public has access" (40 C.F.R. section 50.1(e)). In contrast, the supposed enhancement of the greenhouse effect by CO_2 emissions is a global phenomenon of the troposphere, a layer of the atmosphere to which the general public does not normally have access. Furthermore, CO_2 emissions have nothing to do with the "quality" (breathability or clarity) of ambient air. By what logic, then, might EPA ever classify CO_2 emissions as an "ambient

air quality" problem? By what logic might EPA ever regulate CO_2 under the same authority that it now regulates soot and smog?

It is important to note, as a threshold matter, that EPA does not have under active consideration use of the NAAQS provisions to regulate CO_2, as posed by this question. As stated in the April 10, 1998 Cannon memorandum on authority to regulate pollutants from electric power generation prepared for the Administrator and reiterated in my testimony, "[w]hile CO_2, as an air pollutant, is within EPA's scope of authority to regulate, the Administrator has not yet determined that CO_2 meets the criteria for regulation under one or more provisions of the Act." I further stated in my testimony that EPA has not proposed and has no current plans to propose to regulate CO_2.

That said, I would like to clarify several apparent misunderstandings regarding EPA's authority to establish national Ambient Air Quality Standards or take other actions under Title 1 of the Act.

First, your question appears to be premised on the proposition that the troposphere does not include the air at ground level, to which people ordinarily have access. It is our understanding, however, that the troposphere extends from the earth's surface up to a boundary layer some miles overhead that demarcates the lower reaches of the stratosphere (the "tropopause"). For example, a standard dictionary definition of the "troposphere" is: "[t]he lowest atmospheric region between the earth's surface and the tropopause." Webster's II New Riverside Dictionary. As you note, global warming is largely attributed to elevated levels of greenhouse gases in the troposphere.

Second, EPA currently regulates under Title I substances that are emitted and/or transported through parts of the troposphere above the height to which the public generally has access. For

example, humans generally do not have access to the area immediately surrounding the top of tall smoke stacks. Nor do people generally have access to the altitudes through which air pollutants travel as they mix and move to areas downwind.

Finally, the authority of sections 108 and 109 is not limited to pollutants that affect the "breathability or clarity. . . of ambient air." Sections 108 and 109 refer to adverse effects on public health, without specifying inhalation as the only relevant mode by which adverse health effects may be caused. Further, EPA is authorized to set national secondary ambient air quality standards "to protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air." Section 302(h) provides that "[a]ll language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, man-made materials, animals, wildlife, *weather*, visibility, and *climate*, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants." (Emphasis added.) Thus, effects on climate would be a valid basis for a secondary NAAQS, and Congress' considerations were not limited solely to concerns about "breathability" or "clarity" of the air.

8. As noted, EPA defines "ambient air" for purposes of the NAAQS program as "that portion of the atmosphere, external to buildings, to which the general public has access" (40 C.F.R. section 50.1(e)). The general public does not normally have access to the troposphere, where CO_2 enhancement of the greenhouse effect supposedly occurs. Would EPA have to change this definition in order to promulgate a NAAQS for CO_2?

While EPA has not considered any of the specific regulatory

language that would be associated with promulgation of a NAAQS for CO_2, the question above appears likely to be an academic question, given the specific properties of greenhouse gases. We understand concentrations of greenhouse gases to be essentially identical between the portions of the troposphere to which the public has access and the portions of the troposphere to which it does not have access. Thus, measures addressed to limiting the concentration of greenhouse gases in the lower reaches of the troposphere would be identical to those intended to limit the concentration in the troposphere as a whole.

9. Assume for the sake of argument that EPA decided to publish a NAAQS for CO_2?

The types of questions posed below are ones that typically would be resolved through an extensive rulemaking process. For issues of this kind, such a process would typically include scientific studies, peer-review processes, legal and policy analyses, economic assessments, stakeholder involvement through meetings and public comments, and a proposed and final rulemaking. EPA has not begun such a rulemaking process, and the assumptions underlying this question and the following hypotheticals are not linked to any current or planned EPA activities. Thus, EPA believes it would be inappropriate for the Agency to speculate with regard to most of these questions before engaging in any rulemaking process. Responses are given below to those questions which can be answered without such speculation.

a. Would EPA set the NAAQS above or below the current atmospheric concentrations (360 parts per million) of CO_2?

Please see the response to question 9, above.

b. If EPA set the NAAQS above current concentrations, would not every area of the country be in attainment, even if U.S. CO_2 production suddenly doubled?

Please see the response to question 9, above.

c. If EPA set the NAAQS below current concentrations, would not every area of the country be out of attainment, even if all power plants and factories were to shut down?

Please see the response to question 9 above.

d. Has EPA ever published a NAAQS that, at the time of publication, put every area of the country either in attainment or out of attainment?

No, none of the NAAQS that EPA has published to date have, at the time of publication, put every area of the country either in attainment or out of attainment.

e. Is it EPA's contention that the NAAQS provisions of the Clean Air Act authorize designation of nonattainment areas where attainment cannot be achieved without coordinated international action? If the answer is yes, how could EPA assure attainment of a CO_2 NAAQS within the deadlines set forth in section 172(a)(2) if attainment depends on the actions of other countries?

EPA has not considered or taken a position on the question of whether the Clean Air Act authorizes designation of nonattainment areas where attainment cannot be achieved without international action. Thus, EPA also is unable to speculate on the second part of your question above. EPA notes, however, that Congress has contemplated that a situation could arise under the Clean Air Act in which an area would be unable to attain a NAAQS because of pollution transported from other countries. Section 179B provides that EPA must approve an implementation plan for such an area if the State establishes that the implementation plan would be adequate to attain and maintain the NAAQS, but for emissions emanating from outside of the U.S., thereby allocating an appropriate

portion of responsibility for the air pollution problem to the local area or region.

f. In light of the foregoing questions and your answers to them, does the NAAQS program have any rational application to a global phenomenon of the troposphere, such as the greenhouse effect? If your answer is yes, please describe the actions a State would be required to take in an implementation plan to demonstrate attainment of a CO_2 NAAQS set below current atmospheric concentrations.

EPA agrees that these are issues that would have to be resolved if the Agency were to consider setting a NAAQS for CO_2. As explained above, these issues would be addressed through an extensive rulemaking process, and hence they are not ones to which EPA can respond at this time. EPA also has not specifically evaluated the suitability of the NAAQS framework for regulating greenhouse gases. However, the April 10, 1998 Cannon memo noted that with respect to the control of emissions from electric power generating sources, the authorities potentially available under the Act "do not easily lend themselves to establishing market-based national or regional cap-and-trade programs, which the Administration favors for addressing these kinds of pollution problems."

10. Rep. John Dingell, in a letter to Rep. McIntosh dated October 5, 1999, states: "While it [section 103 of the Clean Air Act] refers, as noted in the EPA memorandum, to carbon dioxide as a 'pollutant,' House and Senate conferees never agreed to designate carbon dioxide as a pollutant for regulatory or other purposes." Mr. Dingell further states: "Based on my review of this history and my recollection of the discussions, I would have difficulty concluding that the House-Senate conferees, who rejected the Senate regulatory provisions (with the exception of the above-referenced

section 821)[1] contemplated regulating greenhouse gas emissions or addressing global warming under the Clean Air Act." Do you agree with Mr. Dingell's account of the legislative history? If not, please explain why.

EPA agrees with Congressman Dingell that Congress did not specifically address the question of regulation of CO_2 or greenhouse gas emissions in the 1990 Amendments. However, the relevant question here is whether the 1990 Amendments removed or limited in some way EPA's pre-existing general authority under various provisions of the Act to regulate air pollutants that meet the criteria for regulation under those specific provisions. The fact that Congress did not enact a proposed provision that would have mandated a pollutant's regulation on climate change grounds did not limit or revoke the general discretionary authority already contained in the Clean Air Act, prior to the 1990 Amendments.

11. Section 302(j) of the Clean Air Act defines "major stationary source" and "major emitting facility" as any stationary source or facility that emits 100 tons or more per year of any air pollutant. Has EPA estimated how many small-and mid-sized businesses and farms emit 100 tons or more of CO_2 per year? If so, how many? As "major sources" of CO_2 emissions, might not tens or even hundreds of thousands of small entities suddenly become subject to pollution control requirements, were EPA to regulate CO_2?

EPA has not undertaken any estimate of the number of small- and mid-sized business and farms that emit 100 tons or more of CO_2 per year. I would note, however, that some provisions of the Clean Air Act apply to "major stationary sources" and "major emitting facilities," but others do not.

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[1] **This section requires EPA to monitor - not control - CO_2 emissions from certain sources.**

12. At the hearing, the Subcommittees questioned you about the apparent contradiction between the Administration's commitment not to implement the Kyoto Protocol before ratification and EPA's claim of authority to regulate CO_2. Rep. Bob Barr asked: "Can you assure the Subcommittees that, even though EPA believes it already has the authority to regulate CO_2, EPA will not do so until and unless the Protocol is ratified? Can you give us that assurance?" You replied that "we have no plans to use our existing authority to regulate carbon dioxide." This is not very assuring, because your response may mean merely that EPA has no plans *at this time* to regulate CO_2. Please confirm or deny the following statements:

a. "EPA will not propose or issue rules, regulations, decrees, or orders to control emissions of CO_2, or prepare to control such emissions, until and unless the Kyoto Protocol is ratified."

Please see response to 12b. below.

b. "EPA will not spend taxpayer dollars to advocate or develop programs or initiatives designed to lay the groundwork for possible future regulation of CO_2 emissions, until and unless the Kyoto Protocol is ratified."

It would not be responsible for EPA to pledge under all circumstances not to exercise authorities or otherwise discharge responsibilities delegated to EPA by Congress for the purpose of protecting public health and the environment. However, I would like to reassure you again that EPA has no plans to use existing authority to regulate CO_2 emissions.

The Administration has repeatedly stated that it will not implement the Kyoto Protocol prior to Senate advice and consent to ratification. EPA has at all times complied, and will continue to comply, with the Knollenberg appropriations

restriction. As discussed in numerous pieces of previous correspondence, there is a clear and sound distinction, however, between implementation of the Kyoto Protocol and any of the appropriate actions regarding greenhouse gases under existing authorities for the purposes specified in the Clean Air Act, and in the 1992 Framework Convention on Climate Change, which was ratified by the Senate.

13. Rep. Barr also asked: "Are you saying that, if EPA determines that CO_2 emissions endanger public health, welfare, or the environment, EPA may regulate CO_2, even if the Senate does not ratify the Kyoto Protocol?" Your response did not address this question but rather reiterated EPA's general position the Clean Air Act "did cite carbon dioxide to be within the class of substances that could be subject to regulation." Therefore, please answer this question: Does EPA believe that the Administrations's promise not to implement the Kyoto Protocol prior to ratification is, *inter alia*, a promise not to regulate CO_2 emissions prior to ratification?

As noted above, and as we have repeatedly discussed in correspondence with you, there are many regulatory actions that have the effect, or even the purpose, of reducing greenhouse gases (sometimes including CO_2), but not the purpose of implementing the Kyoto Protocol. As we have explained in previous letters, some regulatory actions addressed to conventional air quality objectives (e.g., measures to address emissions of nitrogen oxides or sulfur dioxide) can have the indirect effect of reducing greenhouse gases, depending on technological approaches that individual firms choose for compliance. Some provisions of the Clean Air Act authorize regulatory actions that directly address emissions of greenhouse gases (e.g., certain provisions of Title VI). None of these actions has the purpose of implementing the Kyoto Protocol.

The Administrations's commitment not to implement the Kyoto Protocol prior to ratification is not a commitment to forego implementing the Clean Air Act. However, as stated above, EPA has no plans to use existing authority to regulate CO_2 emissions.

14. At the Hearing, you said that EPA has "not commenced the process" to determine whether CO_2 emissions endanger health, welfare, or the environment. This is puzzling. The Administration has said repeatedly that the science underpinning the Kyoto Protocol is "clear and compelling." Are we now to understand that the basic science issues are not "settled?" The actual test in the NAAQS for regulating a substance is whether, in the Administrator's "judgment," emissions of that substance "may reasonably be anticipated to endanger public health or welfare." Are you saying that, in the Administrator's judgement, there is no reasonable basis to anticipate that CO_2 emissions endanger public health or welfare?

As explained above in response to Question 9, in setting a new NAAQS, the Administrator exercises her judgement under sections 108 and 109 based on a record for rulemaking that includes a formal scientific review of the risks to public health and welfare. EPA has not commenced, with respect to CO_2, the formal scientific review process that is set forth in sections 108 and 109 regarding the setting of a new NAAQS. EPA believes, as do the other Parties to the ratified U.N. Framework Convention on Climate Change, that the science supporting international action on climate change is clear and compelling.

15. Your written testimony refers to CO_2 as a substance of environmental "concern." You also contend that CO_2 is a "pollutant" within the meaning of the Clean Air Act. Does EPA not feel obligated to conduct an analysis of pollutants of concern to determine if they should be regulated? Why

has EPA not "commenced" the process of making that determination? When will EPA begin that process?

As I have stated, EPA has no plans to use existing authority to regulate CO_2 emissions, and hence, has not commenced the actions that would be necessary to regulate CO_2 emissions.

16. Professor Jeffrey Miller states that EPA "could not promulgate a new source performance standard for carbon dioxide" under section 111 for any category of sources unless EPA could establish that a CO_2 emissions control technology "had been adequately demonstrated for such a category." To your knowledge, does there exist a commercially available, cost-effective technology to control CO_2 emissions from coal-fired power plants?

Standards under section 111 are not limited to the application of "end-of-pipe" pollution control technologies. Rather, they can include requirements as to the design or operation of a source, precombustion cleaning or treatment of fuels, and inherently low-polluting or non-polluting technologies. Regarding coal-fired power plants, one example of commercially available, cost-effective technology to control CO_2 emissions is a variety of measures to improve combustion efficiency ("heat rate improvements"). Heat rate improvements are currently being made at many such plants in response to the demand for greater efficiency as the electricity market moves towards competition. To say that controls exist that could be considered for adoption should EPA set NSPS for CO_2 is, of course, far from saying that EPA plans to adopt such standards. As outlined above, EPA has no such plans.

17. The Clean Air Act expressly requires EPA to set NAAQS for particulate matter and ozone. Nonetheless, the D.C. Appeals Court in *American Trucking Associations, Inc., et. al., v. EPA* held that EPA, in setting new NAAQS

for those substances, construed sections of the Clean Air Act "so loosely as to render them unconstitutional delegations of legislative authority." The Clean Air Act nowhere expressly authorizes EPA to regulate CO_2. Do you think EPA regulation of CO_2 would be challenged in court? If so, do you think the courts would uphold such regulation or strike it down as a usurpation of legislative power?

In response to the first question, while we cannot precisely predict the litigation strategy of private parties, it seems likely that any regulation of CO_2 would be challenged in court.

In order to respond to your second question, allow us to clarify several points regarding the NAAQS for particulate and ozone and the *American Trucking Association (ATA)* case. First, as you know, EPA has requested that the Justice Department appeal the *ATA* case and does not agree with its delegation ruling. Second, as indicated in prior answers, the 1970 Clean Air Act provided EPA with authority to issue NAAQS for particulate matter and ozone without specifically naming those pollutants in the statute. Subsequent amendments specifically require periodic review and revision of the named pollutants, while maintaining EPA's authority to add other pollutants to the list if the statutory criteria for listing are met. Even if the *ATA* decision were ultimately upheld, EPA believes it would retain the authority to list and regulate additional air pollutants if the appropriate findings were made and supported in a rulemaking record. It does not appear that the listing and regulation of additional pollutants would create any special or additional problems under the theory of the *ATA* case.

18. Your July 26, 1999 letter in response to Rep. McIntosh's letter of July 1st included an "Attachment M," which is marked "Draft" and dated "2/18/99." It is entitled "Summary of Appropriations Restriction" and it is unsigned. It discusses the fiscal year (FY) 1999 VA-HUD

and Independent Agencies Appropriations Act restriction and concludes: "EPA may expend funds to propose or issue a regulation for a number of purposes including the reduction of greenhouse gas emissions, as long as the expenditures are in implementation of existing law and not for the purpose of implementing, or in preparation for implementing, the Kyoto Protocol. EPA may also expend funds on authorized nonregulatory activities."

a. Do the Clean Air Act's regulatory provisions include the term "greenhouse gas emissions"? If so, please identify the specific provisions of the Act.

The Clean Air Act sections that provide the generic regulatory authority addressed in the April 10, 1998 Cannon memo and in Attachment M do not include the term "greenhouse gas emissions." Section 821 of the 1990 Clean Air Act amendments, which required promulgation of regulations requiring monitoring of CO_2 emissions from electric power plants, uses the term "greenhouse gases" in the title of the section.

b. Do you interpret the term "air pollutant" to encompass all greenhouse gases including, for example, water vapor?

Water vapor is the most abundant greenhouse gas and it contributes most to the natural greenhouse effect. Considering the abundance of water vapor from natural sources, it has not been concluded that human activities directly add amounts of water vapor to the atmosphere that have significantly changed its atmospheric concentrations. By contrast, human activities have caused atmospheric concentrations of CO_2, methane, and nitrous oxide to increase by more than 30%, 145%, and 15%, respectively, since pre-industrial times. The increasing concentrations of these gases are strengthening the greenhouse effect, which is expected to lead to global warming and climatic

changes. Thus, emissions of water vapor from human activities have not been a focus of U.S. or international activities to address climate change.

c. If you do interpret the term "air pollutant" to include all greenhouse gases, what is the basis for the above statement that EPA may expend funds to "propose or issue" regulations for "reduction of greenhouse gas emissions"?

Attachment M explains EPA's interpretation of the distinction between activities barred under the Knollenberg appropriations restriction and activities not barred by that provision. The full text of the sentence that you quote is: "EPA may expend funds to propose or issue a regulation for a number of purposes including the reduction of greenhouse gas emissions, as long as the expenditures are in implementation of existing law and not for the purpose of implementing, or in preparation for implementing, the Kyoto Protocol." The basis for this statement is that the appropriations restriction only limits the types of expenditures specified in the provision--regulatory activities for the purpose of implementation or in preparation for implementation of the Kyoto Protocol. Attachment M explains that to the extent that existing law authorizes regulation of greenhouse gas emissions and such regulations are not for the purpose of implementing or preparing to implement the Kyoto Protocol, issuance of such regulations would not be barred. Attachment M does not opine on the scope or source of any existing authority to regulate greenhouse gas emissions.

d. Which office prepared Attachment M? Did you review it?

The Office of General Counsel prepared, and after its preparation I had occasion to review, Attachment M.

e. What is the present status of Attachment M? Has it

been provided to Congress, other than Regulatory Affairs Subcommittee?

Attachment M was distributed within the Agency as internal guidance to EPA staff to ensure that they understood the restrictions imposed by the FY 1999 appropriations restriction. In addition to being provided to the Regulatory Affairs Subcommittee, this document was also provided to GAO on March 30, 1999.

19. In reply to questions by the House Science Committee about the Administration's new proposal for FY 2000 of a $200 million "Clean Air Partnership Fund," EPA declared that "CO_2 and other greenhouse gases" are "each" an air pollutant "within the meaning of the Clean Air Act." However, it is our understanding that the United Nations Framework Convention on Climate Change (UNFCCC), which was ratified after the Clean Air Act was last amended, does not classify greenhouse gases as "pollutants." Rather, the UNFCCC defines greenhouse gases as "those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and re-emit infrared radiation." (Art. 1.5).

a. Do you concur that the UNFCCC does not classify greenhouse gases as pollutants?

b. Is there a conflict between EPA's classification of CO_2 and other greenhouse gases as "pollutants" and the absence of such classification in the UNFCCC?

The UNFCCC is an international agreement under which member states have committed to taking certain actions and pursuing certain goals with respect to climate change. Member states continue to act, however, under domestic authorities, which may differ among member states and from the text of the international agreement. There is no reason why the Clean Air

Act's definition and use of the term "air pollutant" should be reflected in the UNFCCC, nor does the absence of such identical language in any way create a conflict. Moreover, as we note above, for Clean Air Act regulatory purposes the significant question is not whether a substance meets the definition of an "air pollutant," but whether it meets the criteria for regulation under a particular provision of the Clean Air Act. To be clear, we have not taken any steps under the Act to "classify" CO_2.

[from EPA administrative record]

[US EPA Symbol]

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

Feb. 16, 2000[Date Stamped]

Office of
General Counsel

Honorable Ken Calvert
Chairman, Subcommittee on Energy and the Environment
Committee on Science
U.S. House of Representatives
Washington, DC 20515
Dear Mr. Chairman:

I am writing in response to your letter of December 10, 1999, regarding EPA authority with respect to climate change, which addresses certain issues from our letter of December 1, 1999, responding to your letter of October 14, 1999. Attached are our responses to your questions.

Please let me know if we can be of further assistance, or please have your staff contact Alexandra Teitz of my office at (202) 564-5594.

Sincerely,

s/ Gary S. Guzy
General Counsel

Attachment

1. Your response to Q1 of our October 14th letter states: "Specific mention of a pollutant in a statutory provision is not a necessary prerequisite to regulation under many CAA statutory provisions." That is correct, as we acknowledge in Q3 of our October 14th letter. Because a law cannot specify in advance all the circumstances to which it may apply, and because science continually brings to light new information regarding the health and environmental effects of particular air emissions, the Clean Air Act (CAA) sensibly allows the Environmental Protection Agency (EPA) *some* discretion to fill in gaps and address unforeseen contingencies as they arise. However, when Congress amended the CAA in 1990, it was quite familiar with the theory that man-made emissions of carbon dioxide (CO_2) cause, or are likely to cause, global warming. Indeed, Congress had already held several hearings and debates on the subject, including some specifically intended to inform its deliberation on the CAA amendments. Thus, it is not the fact that the CAA nowhere lists CO_2 as a substance to be regulated, but does list numerous other substances, evidence that Congress, in 1990, decided to reserve to itself the power to determine, at some future date, whether or not EPA should regulate CO_2?

Please see in our December 1 letter our responses to Q1 and Q3 of your October 14 letter. In those responses, we discuss the development of the CAA over time and how this history informs our views on the significance of the fact that Congress did not in the 1990 Amendments require EPA to regulate CO_2. As we stated previously, specific mention of a pollutant in a statutory provision is not a necessary prerequisite to regulation under many CAA statutory provisions.

Congress did not in 1990 limit the potential applicability of any of the CAA regulatory provisions of CO_2. Thus, in our view,

the CAA does not express a decision by Congress not to regulate CO_2 unless it should determine to do so at some future date.

2. Your response to Q2 of our October 14th letter states: "Nor does the language in sections 103(g) and 602(e) limit in any way the regulatory authority provided by other provisions of the Clean Air Act." These two sections are the only CAA provisions that mention CO_2 and global warming, and, as you acknowledge, they "do not themselves provide authority to regulate." Thus, your interpretation is paradoxical, to say the least. To wit; although sections that mention CO_2 and global warming do not provide authority to regulate greenhouse gasses, "other provisions" that are completely silent about CO_2 and global warming do provide such authority. We regard this interpretation as not only paradoxical but wrong, because it effectively negates the limitations on EPA's authority set forth in 103(g) and 602(e). After all, if "other provisions" already authorize EPA to regulate greenhouse gases, then the admonitions against assuming such authority in sections 103(g) and 602(e) are a practical nullity. If Congress intended to delegate to EPA the authority to regulate greenhouse gases, why did it admonish EPA not to assume such authority in the only CAA provisions dealing with CO_2 and global warming?

In section 103(g), Congress directed EPA to establish a program with the purpose of *demonstrating nonregulatory strategies* for pollution prevention. It makes sense that Congress did not intend for this provision to be construed to mandate or authorize a broad new regulatory program *mandating* pollution prevention. Similarly, section 602(e) is specifically targeted to providing *information* regarding the ozone-depletion potentials and global warming potentials of a

variety of substances. Again, Congress did not intend for this information provision to be construed to mandate or authorize a broad new regulatory program to regulate greenhouse gases. Neither of these provisions is structured to direct the exercise of regulatory authority. For example, neither contain criteria specifying the circumstances under which regulation is appropriate. By contrast, the regulatory provisions of the Act do specify such criteria and the structure of the regulations authorized by those provisions. Thus, it makes sense that Congress would not intend the Agency to regulate substances under authorities provided for nonregulatory activities. The language in sections 103(g) and 602(e) does not directly or indirectly limit the regulatory authorities provided to the Agency elsewhere in the Act. Nor does that language negate the fact that Congress explicitly recognized in these provision that CO_2 was an "air pollutant."

3. We do not find persuasive your response to Q3 of our October 14th letter. We asked: "What is the significance of the fact that the Act nowhere expressly authorized the Administrator to list and promulgate regulations to control substances that may be reasonably anticipated to cause or contribute to global warming?" You answered that the 1977 and 1990 CAA amendments "generally left intact, and in some cases extended, EPA's general authority to identify and regulate additional air pollutants if they meet the criteria of relevant sections of the Act. Thus, the absence of specific provisions addressing a particular air pollution problem does not mean that EPA lacks authority to address that problem." This response blurs the immense practical difference between the authority to list and regulate "additional air pollutants" within an established regulatory scheme and the authority to create new regulatory schemes.

A "particular air pollution problem" may be very specific

(e.g., the impact of carbon monoxide (CO) emissions from automobiles on ambient air quality) or very broad (e.g., the impact of all auto and industrial emissions on ambient air quality). Although we agree that EPA could list and control CO without a specific provision mentioning it, we do not agree that EPA could control CO without specific provisions authorizing EPA to protect ambient air quality. To put this in the language of *Chevron v. NRDC,* which you site, there is a world of difference between EPA filling in a "gap left, implicitly or explicitly, by Congress" in a "congressionally created . . .program" and EPA's arrogating to itself the power to create new programs. Adding a chemical to the list of ambient air pollutants, or the list of hazardous air pollutants, or the list of ozone-depleting substances, is merely filling "gaps" in "congressionally created" programs. However, Congress has never created a greenhouse gas emissions control program; it has never created a regulatory global warming mitigation program. Thus, if EPA were to attempt to bootstrap such a program into existence, citing CAA sections 108, 111, 112, or other provisions, this would not be an exercise in filling "gaps." It would be a usurpation of legislative power.

Therefore, please answer the following questions:

(a) Do you acknowledge that there is a vital practical distinction between filling gaps in existing programs and creating new programs?

As you use the term here, we are not certain what you would consider to constitute a distinct "program." One can identify practical differences between activities such as applying existing requirements to a new set of sources or additional pollutants, and setting up a new control regime to address a previously overlooked environmental problem from previously

unregulated sources, as the latter is likely to require greater Agency resources, public education efforts, etc. As long as both types of activities are authorized by law, we do not see a general legal distinction between them, however.

(b) Do you agree that EPA may not create new programs without clear and express Congressional authorization?

EPA may not act without Congressional authorization. We do not believe that the question of whether a "new program" is authorized by Congress would be addressed any differently from the question of whether any EPA activity is authorized by Congress.

(c) Do you believe that EPA's authority to control substances based upon their global warming potential is as clear and certain and unambiguous as EPA's authority to control substances based upon their impact on ambient air quality, their toxicity, or their potential to damage the ozone layer?

Whether EPA has authority to control any air pollutant under the CAA depends upon whether EPA finds that the pollutant meets the particular criteria for regulation specified under a provision of the Act. As EPA has no current plans to propose regulations for CO_2, EPA has not evaluated the strength of the technical and legal basis for such findings under any particular provision of the Act. Under section 612 of the Act, EPA has already addressed certain other substances that are substitutes for ozone-depleting substances based on their global warming potentials, and we believe we had clear authority for those steps.

4. Your response to Q4 of our October 14th letter argues that EPA could, in principle, regulate CO_2 as a hazardous air pollutant (HAP) because the class of hazardous air pollutants is "not limited to those that are highly toxic and

endanger health or the environment through direct exposure." You contend that all EPA has to do to list a substance as a HAP to determine that it has an "adverse environmental effect," defined in section 112(a)(7) as "any significant and widespread adverse effect" on "wildlife," "aquatic life," "other natural resources," or "environmental quality over broad areas." We disagree. Under that interpretation, EPA could regulate all ambient air pollutants and all ozone-depleting substances as HAPs. However, in section 112(b)(2), Congress took care to preclude any such expansive interpretation of EPA's authority to list and regulate HAPs. Section 112(b)(2) limits EPA's authority with respect to substances that have adverse environmental effects, and when that limitation is taken into account, it becomes clear that EPA cannot possibly list CO_2 as a HAP.

Section 112(b)(2) does indeed direct the Administrator to add pollutants to the list of HAPs that present a "threat of . . . adverse environmental effects," but with two important exceptions. First, "No [ambient] air pollutant which is listed under section 7408(a) [section 108(a)] of this title may be added to the list under this section," unless the pollutant "independently meets the listing criteria of this paragraph." Second, "No substance, practice, process or activity regulated under subchapter VI [on stratospheric ozone protection] of this chapter shall be subject to regulation under this section solely due to its adverse effects of the environment." In other words, the fact that ambient air pollutants such as CO_2, sulfur dioxide (SO_2), and particulate matter, or ozone-depleting substances such as Freon-12, may have a "significant and widespread adverse effect" on the environment is not sufficient warrant to [sic] classify them as HAPs. Those pollutants must also meet the independent criteria established by section 112.

Section 112 does not provide an exhaustive description of those criteria, using phrases ("including, but not limited to," "whether through ambient concentrations, bioaccumulation, deposition, or otherwise") that give EPA reasonable discretion to address unanticipated health or environmental threats. Nonetheless, section 112 mentions enough criteria to make intelligible the distinction between hazardous air pollutants, on the one hand, and either ambient air pollutants or ozone-depleting substances, on the other. Hazardous air pollutants include those that "are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, neurotoxic, which cause reproductive dysfunction, or which are acutely or chronically toxic." Furthermore, the actual listing of some 190 HAPs in the statute is strong textual evidence of what Congress meant by "hazardous." Clearly, "hazardous air pollutants" are the nastiest of the nasties - or, as we said in our October 14th letter, substances that are "highly toxic and endanger[] health or the environment through direct exposure."

Several questions emerge from foregoing discussion:

(a) An ambient air pollutant like SO_2 may not be classified as a HAP unless it "independently meets the listing criteria" of section 112(b)(2). What are the criteria for listing under section 112 that SO_2 and the other ambient air pollutants do not independently meet?

Section 112(b)(2)provides: "No air pollutant which is listed under section 108(a) may be added to the list under this section, except that the prohibition of this sentence shall not apply to any pollutant which independently meets the listing criteria of this paragraph and is a precursor to a pollutant which is listed under section 108(a) or to any pollutant which is in a class of pollutants listed under such section." (Emphasis added.) Thus,

a pollutant already listed as a criteria pollutant under section 108(a) may be listed under section 112 only if it is a precursor to a criteria pollutant and it meets the criteria for listing under section 112(b)(2).

(b) Under what criteria might EPA list CO_2 as a HAP but not list any of the ambient air pollutants as HAPs?

EPA could list a pollutant as a HAP if the Administrator determined that it was a pollutant that may present, through inhalation or other routes of exposure, adverse human health effects or "adverse environmental effects whether through ambient concentrations, bioaccumulation, deposition, or otherwise." As noted above, EPA could not list a criteria pollutant listed under section 108 as a HAP unless it (1) was also a precursor to a criteria pollutant listed under section 108, and (2) met the criteria listed above. EPA could list a criteria pollutant as a HAP if it met both of these requirements.

(c) Section 112(b)(2) provides that no ozone-depleting substance shall be classified as a HAP "solely due to its adverse effects on the environment." If no ozone-depleting substance may be listed as a HAP solely due to its adverse environmental effects, does it not stand to reason that no greenhouse gas may be listed solely due to its adverse environmental effects? Indeed, is not the exemption of greenhouse gases from listing under section 112 even stronger than that for ozone-depleting substances, inasmuch as the CAA nowhere expressly authorized EPA to regulate greenhouse gases.

It appears that Congress precluded the listing of an ozone-depleting substance "solely due to its adverse effects on the environment" because Congress believed that those substances' environmental effects would be adequately addressed under Title VI. Congress left open the possibility that EPA could

issue regulations under section 112 if an ozone-depleting substance also has effects on public health that were not adequately addressed under Title VI. Since section 112 says nothing precluding the listing of greenhouse gases (or, for that matter, any other pollutants not regulated under Title VI) on environmental grounds alone, EPA does not agree with the conclusion in the last sentence of your question.

(d) Under what criteria might EPA list CO_2 as a HAP but not list Freon -12?

As noted above, EPA could not list Freon-12, which is an ozone-depleting substance covered by Title VI, as a HAP unless the Administrator determined that Freon-12 was a pollutant that may present, through inhalation or other routes of exposure, adverse human health effects. This limitation on the use of section 112 to address a pollutant covered by Title VI simply does not apply to CO_2.

5. In Q5 of our October 14th letter, we asked whether EPA could have phased out Freon-12 and other non-toxic ozone-depleting substances under its authority to regulate HAPs or whether EPA required new and specific authority, such as conferred by subchapter VI. We further asked whether, if the HAPs framework is unsuited to control substances that deplete the ozone layer, it might not also be unsuited to control substances suspected of enhancing the greenhouse effect. You replied, "EPA has not evaluated whether it would have had authority to phase out ozone-depleting substances under section 112 of the Act." We regard that answer an non-responsive. Our question was not whether EPA has or has not conducted an evaluation, but whether it has the authority in question. We think the answer to our question is clear. As noted above, section 112(b)(2)states: "No substance, practice, process or activity regulated under subchapter VI [on stratospheric ozone

protection] of this chapter shall be subject to regulation under this section solely due to its adverse effects on the environment." In short, the HAPs framework is unsuited to control substances that deplete the ozone layer. Do you agree?

Please see our answer above to question 4(c). We also note that Congress included on the section 112(b)(1) list of HAPs several substances that deplete the ozone layer (e.g. methyl bromide, carbon-tetrachloride ($CC1_4$).

6. In Q6 of our October 14th letter, we asked whether EPA could have phased out Freon-12 and other ozone-depleting substances under the National Ambient Air Qualitiy Standard (NAAQS) program, or whether EPA required new and specific authority, such as that conferred by subchapter VI. We further asked whether, if the NAAQS framework was unsuited to control ozone-depleting substances, it might not also be unsuited to control substances suspected of enhancing the greenhouse effect. You replied, "EPA has not evaluated whether it has authority to phase out ozone-depleting substances under the NAAQS program." We regard that answer also as non-responsive. Again, our question was not whether EPA has or has not conducted an evaluation, but whether it has the authority in question. Stratospheric ozone depletion is, by definition, a phenomenon of the stratosphere, not of the ambient air. Furthermore, from the standpoint of protecting the ozone layer, it matters not whether ozone-depleting chemicals such as chlorofluorocarbons are produced and used in California, Indiana, or Japan. In contrast, it matters a great deal where ambient air pollutants are released; and, consequently, the NAAQS program is organized by geographic region. Finally, to protect stratospheric ozone, it is not practical to monitor

and control ambient concentrations of ozone-depleting chemicals; rather, it is necessary to phase out and ban the production, trade, and use of such substances. In light of the foregoing considerations, do you believe the NAAQS program has any rational application to the issue of stratospheric ozone depletion?

Since Title VI adequately addresses stratospheric ozone depletion, EPA has not had any occasion or need to undertake an evaluation of the use of the NAAQS program to address this problem. In the absence of such an evaluation, we do not have anything further we can provide in answer to your question on this subject.

7. Thank you for pointing out that the "troposphere" begins at the planet's surface and, thus, includes "ambient air," as defined by EPA ("that portion of the atmosphere, external to buildings, to which the general public has access"). Nonetheless, we believe that Q7 of our October 14th letter identified a basic problem in EPA's position. As Peter Glaser testified at the October 6th joint hearing, "Although groundlevel and lower atmospheric ambient concentrations of carbon dioxide may differ slightly from locality to locality owing to differing sources and sinks, the greenhouse effect results from overall greenhouse gas concentrations in the troposphere rather than at groundlevel. Tropospheric levels of carbon dioxide over any particular locality are not influenced by emissions of carbon dioxide locally or upwind." Similarly, you observe that the troposphere extends upwards "to a boundary layer some miles overhead that demarcates the lower reaches of the stratosphere ('tropopause'), "i.e., well beyond the portion of the atmosphere to which the public has access. Ambient air is part of the troposphere, but most of the troposphere is not ambient air.

The conclusions we draw from these facts are: (a) the greenhouse effect, and its supposed enhancement by man-made CO_2 emissions are global phenomena of the troposphere, not local conditions of the ambient air; and, (b) the NAAQS program, because it targets local conditions of the ambient air, is unsuited to address the potential problem of global warming. Do you agree?

All of the nations of the world contribute to anthropogenic contributions to a global greenhouse effect, which occurs in the troposphere. To be precise, however, the greenhouse effect occurs throughout the troposphere, which includes the ambient air under EPA's definition. In the Memorandum from Jonathan Cannon to Carol Browner, April 10, 1998, my predecessor as General Counsel stated that the NAAQS provisions and other authorities potentially available for controlling four pollutants from electric power generating sources, which include CO_2, "do not easily lend themselves to establishing market-based national or regional cap-and-trade programs, which the Administration favors for addressing these kinds of pollution problems." This is not the same as a conclusion that the NAAQS provisions are totally "unsuited" for use to address CO_2. EPA has not reached any conclusion on this question because, as already noted, the Agency has not proposed and has no current plans to propose regulations for CO_2. Please see also our response to Q7 of your October 14th letter.

8. In your answer to Q7 or our October 14th letter, you argue, citing CAA section 302(h), that EPA may set "secondary" national ambient air quality standards to protect the public welfare from the known or anticipated effects of an air pollutant on "weather, visibility and climate." However, we understand that this language was adopted in the 1970 CAA amendments – more than a decade before global warming became a theme of public

and Congressional debate. Mr. Glaser informs us that, in 1970, Congress was concerned about the weather and climate impacts of particulate pollution, which, at the local or regional level, can impair visibility, increase precipitation through condensation, and cool ambient air temperatures by reflecting sunlight. We find this a reasonable interpretation of section 302(h), as the NAAQS program is suited to address the local or regional impacts particulates may have on weather, visibility and climate. However, section 302(h) provides no clue as to how the NAAQS program could be applied to CO_2 in the context of the issue of global warming. Do you agree that, when Congress included "weather, visibility and climate" in the 1970 CAA definition of "welfare," its intent was to address the local and regional effects of particulate pollution? Or, do you believe Congress intended that definition to cover global warming caused by emissions of greenhouse gases? If so, on the basis of what information does EPA reach that conclusion?

There is nothing in the text section 302(h) and we have found nothing in its legislative history to support Mr. Glaser's speculation that the scope of that provision was limited to local or regional air pollution problems. Section 302(h) itself indicates that "effects on welfare" are not limited to those listed, and the broad scope of the examples listed indicates that Congress intended to define the term broadly, in order to encompass both problems known at that time and unanticipated, potential problems that could be recognized thereafter. In fact, the legislative history of the 1970 amendments reflected Congressional awareness that there were "many gaps" in the scientific knowledge of welfare effects at the time, and the expectation that research on such effects would be intensified. S. Rep. No. 91-1196, 91st Cong., 2d Sess. 11 (1970). Such research was to extend to welfare effects " in

their broadest definition, including...visibility, weather, and climate." S. Rep. No. 91-1196, 91st Cong., 2d Sess. 7 (1970). The words of the statute indicate on their face that Congress was aware of the potential for air pollutants to have adverse effects on the weather and the climate, and not simply to be addressed solely due to inhalation.

9. Q9 of October 14th letter posed a series of "hypotheticals"designed to test whether the NAAQS program has any rational application to the issue of global warming. You argued that the "types of questions" we posed 'are ones that typically would be resolved through an extensive rule making process" involving "scientific studies, peer-review processes, legal and policy analyses, economic assessments, stakeholder involvement through meetings and public comments, and a proposed and final rule making." We disagree. The questions we posed are conceptual, not technical. They are the types of questions that EPA and other policymakers should address and satisfactorily resolve *before* the start of any rulemaking process.

A NAAQS for CO_2 would have to be set either *below, above,* or *at* current atmospheric concentrations. There is no other possibility. So, before a single dime of taxpayer money is expended on an "extensive rulemaking process," policymakers should think through whether setting a NAAQS for CO_2 makes any sense at all. As we see it, setting a NAAQS for CO_2 above the current concentrations would put the entire country in attainment, even if U.S. CO_2 production suddenly doubled. Conversely, setting a NAAQS for CO_2 below current concentrations would put the entire county out of attainment, even if all power plants and factories were to shut down. Setting a NAAQS for CO_2 at current concentrations would put the entire country in attainment – but only temporarily. As soon as global

concentrations exceeded the NAAQS, the entire country would be out of attainment, no matter how stringent or costly the U.S. emission control regime might be.

From these considerations we conclude that the NAAQS program is fundamentally unsuited to address the issue of global warming. Do you agree?

Since EPA has no current plans to propose regulations for CO_2, the Agency has not fully evaluated the possible applicability of various CAA provisions for this purpose. At this point in time, your question is entirely hypothetical. Our previous response to Q.9 of your letter of October 14 indicated that certain aspects of your question, such as where EPA would set a NAAQS for CO_2 under this hypothetical rulemaking, would properly be addressed through a rulemaking process. Please see also our response to Q.7 above.

10. In your answer to Q9e of our October 14th letter, you state that "EPA has not considered or taken a position on the question of whether the Clean Air Act authorizes designation of *nonattainment* areas where attainment cannot be achieved without international action." This seems to us a significant admission by EPA, because attainment of a NAAQS for CO_2 would clearly be impossible without extensive international action. Until EPA resolves that question in the affirmative, it is not premature to claim, as EPA does, that section 108 of CAA is "potentially applicable" to CO_2?

The April 10, 1998, Memorandum from Jonathan Cannon to Carol Browner states that CO_2 is an air pollutant and hence within the scope of EPA's authority to regulate. The Cannon Memorandum specifically noted that although EPA's regulatory authority extends to air pollutants, "[s]uch a general statement of authority is distinct from an EPA determination

that a particular air pollutant meets the specific criteria for EPA action under a particular provision of the Act." Section 108 of the CAA authorizes regulation of air pollutants if the criteria for regulation under that provision are met. EPA has not yet evaluated whether such criteria have been met for CO_2. Thus, at this time, we believe it is accurate to state that section 108 (and other CAA provisions authorizing regulation of air pollutants) are "potentially applicable" to CO_2.

11. CAA section 109(b) requires the Administrator to adopt NAAQS that are "requisite to protect" public heath and welfare. However, *unilateral* emissions reductions by the United States would have no measurable effect on global climate change. Therefore, it is not clear that the NAAQS program can have no application to the global warming issue, even theoretically, except in the context of an international regulatory regime, such as that proposed in the Kyoto protocol? Furthermore, since the CAA requires that NAAQS be "requisite" to protect public health and welfare, does this not imply that any NAAQS for CO_2 established outside the context of an international regulatory regime would be illegal?

The Clean Air Act does not dictate that EPA must be able to address all sources of a particular air pollution problem before it may address any of those sources. Rather, EPA may address some sources that "contribute" to a problem even if it cannot address all of the contributors. For example, EPA was not precluded from addressing airborne lead emissions because there are other sources of lead contamination, some of which may be beyond EPA's jurisdiction. *See Lead Industries Ass'n v. EPA, 647 F.2d 1130, 1136 (DC Cir. 1980), cert. denied Lead Industries Ass'n v. EPA, 449 U.S. 1042 (1980).* In this particular case, it is worth noting that the U.S. by itself contributes approximately 25% of today's worldwide emissions

of greenhouse gases. Just as noted above, section 109 of the CAA authorizes regulation of air pollutants if the criteria for regulation under that provision are met, and EPA has not evaluated whether such criteria have been met for CO_2.

12. In your answer to Q11 of our October 14th letter, you state that "EPA has not undertaken any estimate of the number of small-and mid-sized businesses and farms that emit 100 tons or more of CO_2 per year." We think EPA should undertake such an estimate. One study calculates that one million small-and mid-sized entities individually emit 100 tons of CO_2 per year and, thus, potentially could be regulated as "major stationary sources" under a CO_2 emissions control regime (Mark P. Mills, "a stunning Regulatory Burden: EPA Designating CO_2 as a Pollutant," Greening Earth Society, 1999). In any event, you note that 'some provisions of the Clean Air Act apply to "major stationary sources' and 'major emitting facilities,' but others do not." Please identify which provisions do or do not apply to such sources. Which, if any, of those provisions are also among those EPA consider "potentially applicable" to CO_2.

Parts C and D of Title I and Title V of the CAA specifically apply to "major stationary sources" and/or "major emitting facilities." These provisions of the CAA would apply to a source of an air pollutant only if EPA had regulated the pollutant pursuant to other provisions of the CAA (E.G., if it were a criteria pollutant under section 108). The terms "major stationary source" and "major emitting facilities" are also used in subpart II of Part C of Title I, which addresses visibility impairment, but EPA is not aware that CO_2 has ever been associated with visibility concerns.

13. In your response to Q13 of our October 14th letter, you state, "as noted above, and as we have repeatedly discussed

in correspondence with you, there are many regulatory actions that have the effect, *or even the purpose,* of reducing greenhouse gases (sometimes including CO_2), but not the purpose of implementing the Kyoto Protocol" (emphasis added). Similarly, in Attachment M, dated February 18, 1999, you interpreted the Knollenberg funding limitation as follows: "EPA may expend funds to propose or issue a regulation for a number of purposes including the reduction of greenhouse gas emissions, so long as the expenditures are in implementation of existing law and not the purpose of implementing, or in preparation for implementing, the Kyoto Protocol." We disagree.

Reducing greenhouse gas emissions is the purpose of the Kyoto Protocol. There is no clear practical difference between issuing regulations to accomplish the purpose of the Kyoto Protocol and issuing regulations "for the purpose implementing" the Kyoto Protocol. Although we have raised this concern in previous correspondence, we feel it is necessary to do so again. If the Knollenberg limitation allows EPA to issue regulations *for the purpose* of reducing greenhouse gas emissions, does it not effectively allow EPA to implement the Kyoto Protocol, as long as EPA is careful not to mention the Protocol in the rulemaking?

Similarly, would it not have been pointless for the Senate to have insisted, in ratifying the Rio Treaty, that the Administration not commit the U.S. to binding emission reductions without the further advice and consent of the Senate, if it were already in EPA"s power to impose such reductions under existing authority?

Regarding your first question above, we believe that we have previously addressed substantially the same question in previous correspondence, including, our letter of September

17,1999, which responded to your letter of August 12, 1999; our letter of July 23, 1999, which responded to your letter of June 30, 1999; and our letter of June 23, 1999, which responded to your follow-up questions from the May 20, 1999 joint hearing before the Subcommittee on National Economic Growth, Natural Resources, and Regulatory Affairs and the Subcommittee on Energy Research, Development, Production and Regulation. As we have stated previously, we believe there is a clear and sound distinction between implementation of the Kyoto Protocol, and any other appropriate actions regarding greenhouse gases taken under exiting authorities for the purposes specified in the Clean Air Act or other applicable authorities.

With respect to your second question, the Senate insisted that the Executive Branch not commit the U.S. to a binding *international* legal obligation (i.e., a treaty obligation) without further advice and consent. The Senate's statement on this point has no bearing on the scope of existing domestic legal authority to address pollution problems as a matter of domestic policy, independent of any international legal obligations.

14. We are puzzled by your response to Q14 of our October 14th letter. You state that "EPA has not commenced, with respect to CO_2, the formal scientific review process that is set forth in sections 108 and 109 regarding the setting of a new NAAQS." Yet, you go on to state, "EPA believes ...that the science supporting international action on climate change is clear and compelling." It is difficult to reconcile these statements. Are we to understand EPA regards the science supporting international action on climate change as "clear and compelling," yet does not believe the science is strong enough to commence a "formal scientific review process" to determine the appropriateness of domestic regulatory action?

The use of EPA's legal authorities involves adherence to specified legal and technical procedural steps, as well as discretion as to when to initiate applying this additional authority. For example, before proposing a NAAQS, EPA must review the relevant scientific and technical information in order to develop the air quality criteria referenced in section 108. The Agency has not initiated this formal process regarding CO_2, nor does it currently have plans to do so. The status of this action does not undermine the Administrations's view concerning the compelling science demonstrating global climate change.

[from EPA administrative record]

[USEPA Symbol]

UNITED STATE ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON D.C. 20460

[Date Stamped]

July 12, 2000

Office of
General Counsel

Honorable David M. McIntosh
Chairman, Subcommittee on National Economic Growth,
Natural Resources and Regulatory Affairs
Committee on Government Reform
U.S. House of Representatives
2157 Rayburn House Office Building
Washington, DC 20515-6143

Dear Mr. Chairman:

I am writing in response to your letter of May 10, 2000, regarding EPA's authority with respect to regulation of carbon dioxide (CO_2). Specifically, you requested my thoughts on the question of EPA's authority in light of the recent Supreme Court decision in Food and Drug Administration (FDA) v. Brown & Williamson (120 S.Ct. 1291, March 21, 2000). In that case, the Court found that FDA lacks authority to regulate tobacco products as customarily marketed under the provisions of the Food, Drug, and Cosmetic Act (FDCA). You suggest

that the Court's analysis in Brown & Williamson supports your view that EPA similarly lacks authority to regulate CO_2 under any provision of the Clean Air Act (CAA).

While I appreciate your interest in my thoughts on this matter and will endeavor to be of assistance, the hypothetical nature of the exercise makes it difficult to conduct the analysis you request. As this Administration has repeatedly assured you, EPA has no current plans to regulate CO_2. Nor is EPA currently conducting any studies or analyses to determine whether the criteria for regulation of CO_2 under any particular provision of the CAA would be met.[1] Nevertheless, I have attempted in the attachment to respond to your inquiry as fully as possible.

Please let me know if we can be of further assistance, or please have your staff contact Alexandra Teitz of my office at (202)564-5594.

Sincerely,

s/

Gary S. Guzy
General Counsel

Attachment

[1] While EPA is in receipt of a petition requesting that the Agency regulate emissions of several greenhouse gases, including CO_2, under section 202(a)(1) of the CAA, the Agency plans to solicit public comment on the petition prior to taking any other action.

Q1. In Food and Drug Administration (FDA) v. Brown & Williamson (120 S. Ct. 1291, March 21, 2000), the Supreme Court overturned FDA's regulation of tobacco products as exceeding the authority Congress had delegated to FDA. FDA argued as follows: The Federal Food, Drug, and Cosmetic Act (FDCA) authorized FDA to regulate "drugs" and "devices;" nicotine can be considered a "drug;" cigarettes and smokeless tobacco can be considered "devices" for delivering nicotine to the body; therefore, FDCA authorized FDA to regulate cigarettes and smokeless tobacco. The Environmental Protection Agency's (EPA's) argument with respect to carbon dioxide (CO_2) is strikingly similar. According to EPA, the Clean Air Act (CAA) authorizes EPA to regulate "air pollutants;" CAA section 103(g) lists CO_2 among several "air pollutants;" therefore, EPA may regulate CO_2.

In Brown & Williamson, the Court cautioned against agencies inferring grants of authority from the "definitional possibilities" of statutory language taken out of context. The Court stated: "In determining whether Congress has specifically addressed the question at issue, a reviewing court should not confine itself to examining a particular statutory provision in isolation. The meaning - or ambiguity - of certain words or phrases may only become evident when placed in context." The Court also cited Brown v. Gardner (513 U.S. 115, 118, 1994): "Ambiguity is a creature not of definitional possibilities but of statutory context" (Brown & Williamson, p. 1300-01). As I have noted in previous correspondence with you, the context for the CAA's sole mention of CO_2 -section 103(g) - is a non-regulatory provision. Moreover, that provision concludes with the admonition that "Nothing in this subsection [i.e., including the reference to CO_2 as an 'air pollutant'] shall be construed to authorize the imposition on any person of air

pollution control requirements." Additionally, in a October 5, 1999 letter to Chairman McIntosh, Congressman John Dingell explained: "While it [section 103(g) refers, as noted in the EPA memorandum, to carbon dioxide as a 'pollutant,' House and Senate conferees never agreed to designate carbon dioxide as a pollutant for regulatory purposes."

EPA's argument appears to suffer from the same flawed reliance on "definitional possibilities" that the Court found in FDA's claim of authority to regulate tobacco products. Do you agree? If not, please explain why you believe the Court's reasoning does not apply to EPA's attempt to use the words "air pollutants" and "carbon dioxide" in section 103(g) as a source of regulatory authority. Specifically, please identify the "statutory context" that explains and justified EPA's argument.

As a preliminary matter, I wish to clarify EPA's position regarding its legal authority to regulate CO_2 under the CAA. As I have stated in previous correspondence and as stated by my predecessor in the Memorandum from Jonathan Cannon to Carol Browner, April 12, 1998, EPA's legal authority to regulate CO_2 derives from the definition of "air pollutant" contained in section 302(g), in conjunction with the various provisions authorizing EPA to regulate air pollutants if the criteria specified in those provisions are met. As I have indicated in previous correspondence with you, the reference to CO_2 as an air pollutant in section 103(g) supports that authority. EPA has not asserted that section 103(g) itself provides regulatory authority.

You have raised the question of whether the Court's reasoning in Brown & Williamson could apply to EPA's assertion that it has authority under various provisions of the CAA to regulate CO_2 as an air pollutant if the Agency finds that

the specific criteria of a statutory provision are met. It appears that the Court's reasoning in this case arguably could be applied to the interpretation of any statutory provision that appears clear from the language of the provision but could be questioned based on other factors, such as the purpose of the statute as a whole, or Congressional intent in adopting that statute or other legislation. On the other hand, other cases focusing on the "plain language" of the statutory provision to be interpreted caution against overriding the statutory language based on other indications of Congressional intent.[2] The persuasiveness of the interpretive approach applied in any

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[2] See Consumer Product Safety Commission v. GTE Sylvania, 100 S.Ct. 2051, 2056 (1980) ("We begin with the familiar canon of statutory construction that the starting point for interpreting a statute is the language of the statute itself. Absent a clearly expressed legislative intention to the contrary, that language must ordinarily be regarded as conclusive."); U.S. v. Ron Pair Enterprises, 109 S.Ct. 1026, 1030 (1989) ("The task of resolving the dispute over the meaning of [a statutory provision] begins where all such inquiries must begin: with the language of the statute itself....In this case it is also where the inquiry should end, for where, as here, the statute's language is plain, 'the sole function of the courts is to enforce it according to its terms.'" (citations omitted)); U.S. v. Gonzales, 117 S.Ct. 1032, 1035 (1997) ("Given the straightforward statutory command, there is no reason to resort to legislative history" citing Connecticut Nat. Bank v. Germain, 112 S.Ct. 1146, 1149-1150); Shannon v. U.S., 114 S.Ct. 2419, 2426 (1994) ("[C]ourts have no authority to enforce [a] princip[e] gleaned solely from legislative history that has no statutory reference point." (cites omitted)); AFL-CIO v. Donovan, 757 F.2d 330, 344 (D.C. Cir. 1985) ("arguments as to the general intent or mind set of Congress cannot overturn the clear language of a specific provision."); Wisconsin Public Intervenor v. Mortier, 111 S.Ct. 2476, 2488 ("Their only mistake was failing to recognize how unreliable Committee Reports are-not only as a genuine indicator of congressional intent but as a safe predictor of judicial construction. We use them when it is convenient, and ignore them when it is not.") (Scalia, J., concurring in judgment). See also Shannon v. U.S. at 2426 ("Members of this Court have expressed differing views regarding the role that legislative history should play in statutory interpretation.")

particular case will obviously depend upon the specifics of the case at issue -- in particular the clarity of the statutory language, the fact pattern in which that language is being applied, and the strength of various other considerations such as indicators of contrary congressional intent.

As there is no specific EPA regulation, factual record, or even particular provision of the CAA at issue here, it is premature to attempt to evaluate these legal arguments as applied to EPA's hypothetical regulation of CO_2. At most, it seems useful to recognize that the Court in Brown & Williamson heavily emphasized the factual context of the case in terms of the legislative and administrative history of the issue of tobacco and public health. As I discuss below, that factual context is very different in key respects from the history of Congress'and EPA's actions to date regarding climate change and emissions of CO_2, which casts doubt on the relevance of the Brown & Williamson holding to the issue of EPA's authority to regulate CO_2 under the CAA.

In Brown & Williamson, the Court found that Congress had directly spoken to the issue of FDA's authority to regulate tobacco products as customarily marketed and had answered in the negative. See id. at 1301. The Court made this determination based on a couple of key factors. One factor was the court's identification of a particular regulatory outcome that it found would be mandated by the FDCA that also would be contrary to otherwise clearly expressed Congressional intent. The Court determined that in light of the inherent danger posed by use of tobacco products, as demonstrated by FDA's record, the FDCA mandated that if such products were covered by that statute, FDA must ban them. Yet this result would directly conflict with the Court's finding that Congress specifically intended to allow continued manufacture and use of tobacco products, as demonstrated through numerous pieces of

legislation in which Congress regulated tobacco without removing it from the market. See id. at 1302. The Court reasoned that because application of the FDCA to tobacco would produce a result contrary to "Congress' clear intent...[t]he inescapable conclusion is that there is no room for tobacco products within the FDCA's regulatory scheme." See id. At 1306.

The Court appeared particularly troubled in this case by the following contradiction: "If [tobacco products] cannot be used safely for any therapeutic purpose, and yet they cannot be banned, they simply do not fit [in the FDCA's regulatory scheme]." See id at1306.

Applying EPA's authority to regulate any air pollutant under the CAA, including CO_2, would not appear to raise any such inherent contradictions. Congress clearly intended through its initial adoption and subsequent reauthorizations of the CAA to provide APA broad general authority to address various threats to public health and the environment from air pollution. The purposes of the Clean Air Act -- "to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population" -- do not appear to conflict with an exercise of EPA's authority to regulate a particular air pollutant if the Agency finds that the criteria of the relevant regulatory provision of the CAA are met. The question of whether the CAA authorizes a particular regulatory approach to CO_2 is, of course, dependent on the facts of the situation. None of those provisions, however, would appear to necessitate a ban on CO_2 emissions.

The Brown & Williamson Court also based its conclusion on Congress' actions on other legislation, especially in light of FDA's position that it had no authority in this area. The Court explains that FDA believed it had no authority to regulate

tobacco as customarily marketed, Congress understood and acted on that belief by regulating tobacco itself, and Congress' regulatory scheme excluded FDA and other administrative agencies from exercising policy in this area. See id. at 1312-13. "Congress has enacted several statutes addressing the particular subject of tobacco and health, creating a distinct regulatory scheme for cigarettes and smokeless tobacco." Id. "It has also enacted this legislation against the background of the FDA repeatedly and consistently asserting that it lacks jurisdiction under the FDCA to regulate tobacco products as customarily marketed. Further, Congress has persistently acted to preclude a meaningful role for any administrative agency in making policy on the subject of tobacco and health. Moreover, the substance of Congress' regulatory scheme is, in an important respect, incompatible with FDA jurisdiction." Id. at 1313. Thus, "Congress' tobacco-specific statutes have effectively ratified the FDA's long-held position that it lacks jurisdiction under the FDCA to regulate tobacco products. Congress has created a distinct regulatory scheme to address the problem of tobacco and health, and that scheme, as presently constructed, precludes any role for the FDA." Id. at 1307.

This set of circumstances is simply not repeated regarding the regulation of CO_2. EPA has never asserted that it lacks authority to regulate emissions of greenhouse gases, much less repeatedly disavowed such authority over a thirty year period. Congress has not established any broad-based requirements specifically to address climate change, much less created a distinct alternative regulatory scheme for emissions of CO_2. Nor has Congress acted to preclude administrative agencies from making policy on the topic of climate change. To the contrary, with Congressional authorization and appropriations, EPA has been working intensively on climate change issues for many years now, in areas such as international negotiations,

policy evaluation, scientific and economic research, and establishing voluntary programs to reduce greenhouse gas emissions, the latter as part of the 1993 President's Climate Change Action Plan and 1999 Climate Change Technology Initiative.

For these reasons, I believe both that it is premature to attempt to apply the Court's reasoning in Brown & Williamson to the question of EPA's authority to regulate CO_2 under the CAA and that the case is unlikely to be particularly illuminating, given the apparent absence of comparable factual circumstances.

Q2. In the Brown v. Williamson case, the Court noted that: "It is a 'fundamental canon of statutory construction that the words of a statute *must* be read in their context and with a view to their place in the overall statutory scheme." In addition, the Court stated that "A court must therefore interpret the statute 'as a symmetrical and coherent regulatory scheme,' and 'fit, if possible, all parts in to a harmonious whole'" Brown & Williamson, p. 1301, internal citations omitted). These words are telling, because the CAA contains no "overall statutory scheme" with respect to greenhouse gases or global warming. Furthermore, as noted in previous correspondence, CO_2 does not fit harmoniously in any regulatory provision of the CAA. For example, regulating CO_2 under the national ambient air quality standards (NAAQS) program would be an attempt to address a global phenomenon of the troposphere (the greenhouse effect) through a regulatory structure designed to address local or regional conditions of the ambient air. Similarly, regulating CO_2 under the hazardous air pollutant (HAP) program would be an attempt to control a benign substance as though it were a toxic substance. In short, EPA regulation of CO_2 under the CAA would create

incoherent **and** ***asymmetrical*** **regulatory schemes. Do you agree? If not, please explain how the NAAQS or HAPs program might be stretched to include CO_2 without incoherence, disharmony, or asymmetry.**

As our previous correspondence addressed substantially the same question posed here please see our response of February 16, 2000 to your letter of December 10, 1999, and our response of December 1, 1999 to your letter of October 14, 1999.

Q. 3. The Court in Brown & Williamson partly based its decision on legislative history. It states, "In fact, on several occasions...Congress considered and rejected bills that would have granted FDA such jurisdiction" [i.e., authority to regulate tobacco products] (Brown & Williamson, p. 1307). The Court also noted that "the meaning of one statute may be affected by other Acts, particularly where Congress has spoken subsequently and more specifically to the topic at hand" (Brown & Williamson, p. 1301). Likewise, Congress considered and rejected greenhouse gas regulation when it enacted the 1990 CAA Amendments. Congress subsequently and more specifically rejected regulatory approaches to addressing global climate change and emissions of greenhouse gases when it enacted the omnibus Energy Policy Act of 1992. Do you agree that Congressional rejection of legislation to grant EPA authority to regulate CO_2 supports the conclusion that EPA currently lacks such authority? If EPA does not agree, please explain why.

The Court in Brown & Williamson based its decision partly on legislative history showing that FDA had disavowed FDCA authority over tobacco as customarily marketed for 35 years and that Congress had affirmatively adopted other schemes to address tobacco over the same period. See id. at

1312. However, the Court explicitly *disavows* as a basis for its decision Congress' rejection of legislation that would have explicitly give FDA authority to regulate tobacco as customarily marketed. See id. at 1312. "We do not rely on Congress' failure to act-its consideration and rejection of bills that would have given the FDA this authority-in reaching [the] conclusion [that the 'actions by Congress over the past 35 years preclude an interpretation of the FDCA that grants the FDA jurisdiction to regulate tobacco products.']" Id. at 1312. As the dissent notes, case law provides that "failed requests do not prove agency 'did not already possess' authority." See id. at 1326 (citation omitted). The Court instead focuses on Congress' affirmative actions in enacting several statutes "creating a distinct regulatory scheme for cigarettes and smokeless tobacco." Thus, the Brown & Williamson decision does not undermine, and arguably implicitly supports, the view that failure to enact a statutory provision specifically directed at climate change has no effect on general CAA provisions authorizing EPA to identify and regulate any air pollutants meeting the statutory criteria relating to endangerment of health or welfare.

Q4. In Brown & Williamson, the Court partly based its decision on the common sense of the matter. It stated that courts "must be guided to a degree by common sense as to the manner in which Congress is likely to delegate a policy decision of such economic and political magnitude to an administrative agency" (Brown & Williamson, p. 1301). Moreover, the Court explained that unlike an implicit delegation from Congress to fill in minor statutory gaps, "it is highly unlikely that Congress would leave the determination of whether an industry will be entirely, or even substantially, [regulated] to agency discretion") Brown & Williamson, p. 1315, internal citation omitted). This analysis applies with even more force to a regulatory

global warming mitigation program. Whereas tobacco regulation would primarily affect just one industry, CO_2 regulation would directly affect whole economic sectors, including energy production, transportation, manufacturing, and agriculture. Do you agree that establishing a regulatory global warming mitigation program involves a policy decision of at least the "economic and political magnitude" as the regulation of tobacco products, and, therefore, it is highly unlikely Congress would leave the determination of whether CO_2 will be regulated to EPA's discretion? If EPA does not agree, please explain why.

Again, it is difficult to analyze this question in the abstract. The argument reflected in the question depends on the assumption that any regulation of CO_2 would necessarily have great "economic and political magnitude." At this stage, it is not possible to determine whether the magnitude of consequences from regulation of CO_2 would be greater or less than those related to the regulation of other pollutants over which EPA's authority is unquestioned.

Q5. Do you agree that the Supreme Court's reasoning in Brown & Williamson makes it less likely that the courts would uphold an attempt by EPA to regulate CO_2? If EPA does not agree, please explain why.

Please see my response to Question 1 discussing the applicability of the Brown & Williamson analysis to the question of EPA's authority to regulate CO_2.

[from EPA administrative record]

August 28, 2003

MEMORANDUM

SUBJECT: EPA's Authority to Impose Mandatory Controls to Address Global Climate Change under the Clean Air Act

FROM: Robert E. Fabricant
General Counsel

TO: Marianne L. Horinko
Acting Administrator

I. Introduction and Background

EPA was petitioned by the International Center for Technology Assessment (ICTA) and a number of other organizations to regulate motor vehicle emissions of carbon dioxide (CO_2) and other greenhouse gases (GHGs) under the Clean Air Act (CAA or Act). Relevant to the Agency's consideration of this petition is an April 10, 1998 memorandum regarding "EPA's Authority to Regulate Pollutants Emitted by Electric Power Generation Sources" from then- General Counsel Jonathan Z. Cannon to then-Administrator Carol M. Browner. In that memorandum, Mr. Cannon concludes that CO_2 is an "air pollutant" under the CAA and thus subject to regulation under the CAA to the extent the criteria of any of the Act's regulatory provisions are met.

I have reviewed Mr. Cannon's memorandum and the text and history of the CAA in the context of other congressional actions specifically addressing global climate change. Based on my review, I have determined that the CAA does not authorize

EPA to regulate for global climate change purposes. Accordingly, CO_2 and other GHGs cannot be considered "air pollutants" subject to the CAA's regulatory provisions for any contribution anthropogenic GHG emissions may make to global climate change. This memorandum explains the reasons for my conclusions and formally withdraws Mr. Cannon's April 10, 1998 memorandum as no longer representing the views of EPA's General Counsel.[1] The legal positions set forth in this memorandum apply for purposes of deciding the ICTA petition and for all other relevant regulatory purposes under the CAA.

II. The Cannon Memorandum

Mr. Cannon's memorandum (Cannon memorandum) was prepared in response to a request from Congressman DeLay to Administrator Browner. At a Fiscal Year 1999 House Appropriations Committee hearing, Congressman DeLay questioned the Administrator about an EPA document stating, in part, that EPA currently has authority under the CAA to establish control requirements for emissions of nitrogen oxides, sulfur dioxide, CO_2 and mercury from electric power generation. He asked Administrator Browner whether she agreed with the statement, and in particular, whether she thought the CAA allows EPA to regulate emissions of CO_2. Administrator Browner agreed with the statement that the CAA grants EPA broad authority to address certain emissions, including those listed, and agreed to Congressman DeLay's request for a legal opinion on that point. The Cannon memorandum was prepared in response to that request.

The Cannon memorandum states that the CAA "provides that EPA may regulate a substance if it is (a) an 'air pollutant,'

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[1] Gary S. Guzy, EPA's General Counsel following Mr. Cannon, also addressed EPA's authority to regulate CO_2. This memorandum will review and address his statements as well.

and (b) the Administrator makes certain findings regarding such pollutant (usually related to danger to public health, welfare, or the environment) under one or more of the Act's regulatory provisions." The memorandum further states that the CAA section 302(g) definition of "air pollutant" is "broad" and expressly "includes any physical, chemical, biological, or radioactive substance or matter that is emitted into or otherwise enters the ambient air." The memorandum notes that a substance can be an air pollutant even though it is naturally present in the air in some quantities, and that many pollutants already regulated by EPA are emitted from natural as well as anthropogenic sources (e.g., sulfur dioxide, particulate matter, and volatile organic compounds). It then concludes that emissions of nitrogen oxides, sulfur dioxide, CO_2, and mercury from electric power generation "are each a 'physical [and] chemical . . . substance which is emitted into . . . the ambient air,' and hence, . . . each is an air pollutant within the meaning of the Clean Air Act" (quoting from a portion of the statutory definition of air pollutant). As further support for its conclusion, the memorandum cites CAA section 103(g), which refers to CO_2 along with a number of substances already regulated as "air pollutants."

Turning to EPA's authority under the CAA, the Cannon memorandum states that "EPA's regulatory authority extends to air pollutants, which, as discussed above, are defined broadly under the Act . . ." The memorandum notes, however, that "a general statement of authority is distinct from an EPA determination that a particular air pollutant meets the specific criteria for EPA action under a particular provision of the Act." According to the memorandum, several CAA provisions potentially applicable to the four emissions of concern from utilities require "a determination by the Administrator regarding the air pollutants' actual or potential harmful effects on public health, welfare or the environment." The

memorandum explains that EPA already regulates nitrogen oxides, sulfur dioxide and mercury based on determinations by EPA or Congress that those substances have negative effects on public health, welfare, or the environment. With respect to CO_2, the memorandum states that "[w]hile CO_2 emissions are within the scope of EPA's authority to regulate, the Administrator has made no determination to date to exercise that authority under the specific criteria provided under any provision of the Act."

III. Other Previous EPA General Counsel Statements

Gary S. Guzy succeeded Mr. Cannon as EPA's General Counsel and also addressed the issue of whether EPA may regulate CO_2 under the CAA. In congressional testimony and subsequent correspondence, Mr. Guzy agreed with his predecessor's conclusion that the CAA definition of "air pollutant" is broad and encompasses CO_2 even though it has natural as well as man-made sources.[2]

Mr. Guzy also agreed that CO_2 may be regulated under the CAA to the extent the criteria of any of the Act's regulatory provisions are met. In Mr. Guzy's view, "[g]iven the clarity of the statutory provisions defining 'air pollutant' and providing authority to regulate air pollutants, there is no statutory ambiguity"[3] regarding whether EPA may regulate CO_2 under the CAA. He also stated that the absence of a CAA provision

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[2] Mr. Guzy testified before the Subcommittee on National Economic Growth, Natural Resources and Regulatory Affairs of the Committee on Government Reform, and the House Subcommittee on Energy and the Environment of the House Committee on Science on Oct. 6, 1999, and he responded to correspondence from one or both subcommittees on December 1, 1999, February 16, 2000, and July 11, 2000.

[3] Letter to the Subcommittee on National Economic Growth, Natural Resources and Regulatory Affairs of the Committee on Government Reform, and the House Subcommittee on Energy and the Environment of the House Committee on Science, December 1, 1999.

explicitly authorizing regulation to address climate change does not mean that EPA cannot regulate CO_2 under CAA provisions authorizing regulation of air pollutants generally, provided the applicable criteria for regulation are met: "Explicit mention of a pollutant in a statutory provision is not a necessary prerequisite to regulation under many CAA statutory provisions."[4] At the same time, Mr. Guzy, like his predecessor, observed that EPA had not made any determinations under the specific provisions of the CAA to regulate CO_2.[5]

IV. Clean Air Act Authority to Address Global Climate Change

As part of the Agency's consideration of the ICTA petition and related public comments, I have reviewed the Cannon memorandum and Guzy statements regarding whether CO_2 is an "air pollutant" under the CAA and whether the CAA authorizes CO_2 regulation.[6] I have considered the statutory definition of "air pollutant" and whether CO_2 and other GHGs, as such, fall within that definition. I have also considered the broader issue of whether the CAA's general regulatory authorities are available to address global climate change in view of the unusually large economic and societal significance such regulation may have. Based on the analysis set forth below, I have concluded that the CAA does not authorize EPA to regulate GHGs to address global climate change. Aithough the Act specifically authorizes information development and "non-regulatory" measures related to global climate change,

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[4] Id.

[5] Id.; Mr. Guzy's Oct. 6, 1999 testimony, supra note 3.

[6] This memorandum uses the term "regulation" to refer to legally binding requirements promulgated by an agency under statutory authority. It does not include voluntary measures that emission sources may or may not undertake at their discretion.

there is no indication that Congress intended EPA to regulate in this particular area. Indeed, as a matter of statutory structure, the CAA is conspicuously missing a functional regulatory regime for addressing global climate change such as exists for addressing another global atmospheric issue, stratospheric ozone depletion. In light of the Supreme Court's decision in *Food and Drug Administration v. Brown & Williamson Tobacco Corp.*, 120 S.Ct 1291 (2000) (*Brown & Williamson*), it is clear that an administrative agency properly awaits congressional direction on a fundamental policy issue such as global climate change, instead of searching for new authority in an existing statute that was not designed or enacted to deal with that issue.

Issued before *Brown & Williamson* was decided, the Cannon memorandum assumed that if CO_2 were an "air pollutant" under the CAA, EPA would have authority to regulate it under the CAA to the extent the Act's criteria for regulation were met. That assumption was based on the fact that various CAA provisions authorize regulation of any "air pollutant" if the Administrator finds, among other things, that the pollutant causes or contributes to air pollution that may reasonably be anticipated to endanger "public health or welfare" or the environment. CAA section 302(h) specifies that the statute's references to "welfare" include "effects on . . . climate." The Cannon memorandum concluded that the CAA's broad definitions confer commensurately broad regulatory authority, without considering the potential significance of the policy issues raised or any contrary indications of congressional intent.

Brown & Williamson has made clear the need for a more thorough inquiry, particularly where unusually significant policy questions are involved. Accordingly, I have examined the fundamental issue of whether the CAA authorizes

regulation for global climate change purposes. As instructed by the Supreme Court's opinion in *Brown & Williamson*, I have reviewed the CAA's facially broad grants of authority in the context of the statute's purpose, structure and history and other relevant congressional actions to determine whether such grants reach the global climate change issue. Based on my review, I have concluded that the CAA does not authorize regulation to address global climate change.

Three codified and uncodified provisions of the CAA expressly touch on matters related to global climate change. Specifically, uncodified section 821 of the CAA Amendments of 1990 requires measurement of CO_2 emissions from utilities subject to permitting under Title V of the Act. CAA section 602 directs EPA to determine the "global warming potential" of substances that deplete stratospheric ozone. CAA section 103(g) calls on EPA to develop "nonregulatory" measures for the prevention of multiple "air pollutants" and lists several air pollutants and CO_2 for that purpose. None of these provisions authorizes regulation, and two of them expressly preclude their use for authorizing regulation (CAA sections 103(g) and 602).

All three provisions were enacted in 1990, when the CAA was last comprehensively amended. By that time, global climate change had become a prominent national and international issue. During the 1980s, scientific discussions about the possibility of global climate change led to growing public concern both in the U.S. and abroad. In response, the U.S. and other nations developed the United Nations Framework Convention on Climate Change (UNFCCC). President George H. W. Bush signed, and the U.S. Senate approved, the UNFCCC in 1992, and the UNFCCC took effect in 1994.

The UNFCCC established the "ultimate objective" of "stabiliz[ing] greenhouse gas concentrations in the atmosphere

at a level that would prevent dangerous anthropogenic interference with the climate system" (Article 2 of the UNFCCC). All parties to the UNFCCC agreed on the need for further research to determine the level at which GHG concentrations should be stabilized, acknowledging that "there are many uncertainties in predictions of climate change, particularly with regard to the timing, magnitude and regional patterns thereof"(findings section of UNFCCC).

A central issue for the UNFCCC – whether binding emission limitations should be set – was also considered in the context of amending the CAA. A Senate committee included in its CAA amendment bill a provision requiring EPA to set CO_2 emission standards for motor vehicles. However, that provision was removed from the bill on which the full Senate voted, and the bill eventually enacted was silent with regard to motor vehicle CO_2 emission standards. Instead, Congress enacted the three provisions described above, calling on EPA to conduct research and collect information related to global climate change and develop "nonregulatory" strategies for reducing CO_2 emissions.

Only the research and development provision of the CAA – section 103 – specifically mentions CO_2, and the legislative history of that section indicates Congress was focused on seeking a sound scientific basis on which to make future decisions on global climate change. Representatives Roe and Smith, two of the principal authors of section 103 as amended, explained that EPA's "science mandate" needed updating to deal with new, more complex issues, including "global warming." Committee on Environment and Public Works, U.S. Senate, *A Legislative History of the Clean Air Act Amendments of 1990*, S. Rep. 103-38, Vol. II at 2776 and 2778 (1993). They expressed concern that EPA's research budget had been too heavily focused on supporting existing regulatory actions when

the Agency also needed to conduct long-term research to "enhance EPA's ability to predict the need for future action." Id. at 2777.

In providing EPA with expanded research and development authority, Congress did not provide commensurate regulatory authority. In section 103(g), Congress directed EPA to establish a "basic engineering research and technology program to develop, evaluate and demonstrate" strategies and technologies related to air emissions and specifically called for improvements in such measures for preventing CO_2 as well as several specified air pollutants. But it expressly provided that nothing in the subsection "shall be construed to authorize the imposition on any person of air pollution control requirements." As if to drive home the point, section 103(g) was revised in conference to include the term "nonregulatory" to describe the "strategies and technologies" the subsection was intended to promote, and this point was underscored in the conference report. H.R. Conf. Rep. No. 101-952 at 349 (1990). In its treatment of the global climate change issue in the CAA amendments, Congress made clear that it awaited further information before making decisions on the need for regulation.

Beyond Congress' specific CAA references to CO_2 and global warming, another aspect of the Act cautions against construing its provisions to authorize regulation to address global climate change. The CAA provisions addressing stratospheric ozone depletion demonstrate that Congress has understood the need for specially tailored solutions to global atmospheric issues, and has expressly granted regulatory authority when it has concluded that controls may be needed as part of those solutions. The causes and effects of stratospheric ozone depletion are global in nature. Anthropogenic substances that deplete stratospheric ozone are emitted around the world and are very long-lived; their depleting effects and the

consequences of those effects occur on a global scale. In the CAA prior to its amendment in 1990, Congress specifically addressed the problem in a separate portion of the statute (part B of title I) that recognized the global nature of the issue and called for negotiation of international agreements to ensure world-wide participation in research and any control of stratospheric ozone-depleting substances. In the 1990 CAA amendments, Congress again addressed the issue in a discrete portion of the statute (title VI) that similarly provides for coordination with the international community. Moreover, both incarnations of the CAA's stratospheric ozone provisions contain express authorization for EPA to regulate as scientific information warrants. In light of this CAA treatment of stratospheric ozone depletion, it would be anomalous to conclude that Congress intended EPA to address global climate change under the CAA's general regulatory provisions, with no provision recognizing the international dimension of the issue and any solution, and no express authorization to regulate.

EPA's prior use of the CAA's general regulatory provisions provides an important context. Since the inception of the Act, EPA has used these provisions to address air pollution problems that occur primarily at ground level or near the surface of the earth. For example, national ambient air quality standards (NAAQS) established under CAA section 109 address concentrations of substances in the ambient air, and the related public health and welfare problems. This has meant setting NAAQS for concentrations of ozone, carbon monoxide, particulate matter and other substances in the air near the surface of the earth, not higher in the atmosphere. Cf. *Hancock v. Train*, 426 U.S. 167, 169 n. 4 (1976) (noting in a general discussion of the NAAQS provisions of the CAA that EPA has "defined[d] 'ambient air' as 'that portion of the atmosphere, external to buildings, to which the general public has access,'" citing 40 C.F.R. section 50.1(e) (emphasis added), which is still

in effect). Concentrations of these substances generally vary from place to place as a result of differences in local or regional emissions and other factors (e.g., topography), although long range transport also contributes to local concentrations in some cases. By contrast, CO_2 is fairly consistent in concentration throughout the *world's* atmosphere up to approximately the lower stratosphere. Atmospheric concentrations of CO_2 are much more like the kind of global phenomenon Congress addressed through adoption of the specific provisions of Title VI.

In assessing the availability of CAA authority to address global climate change, it is also useful to consider whether the NAAQS system – a key CAA regulatory mechanism – could be used to effectively address the issue. As discussed in the Agency's decision on the ICTA petition being issued concurrently with this memorandum, unique and basic aspects of the presence of key GHGs in the atmosphere make the NAAQS system fundamentally ill-suited to addressing global climate change. Many GHGs reside in the earth's atmosphere for very long periods of time. CO_2 in particular has a residence time of roughly 50-200 years. This long lifetime along with atmospheric dynamics means that CO_2 is well mixed throughout the atmosphere, up to approximately the lower stratosphere. The result is a vast global atmospheric pool of CO_2 that is fairly consistent in concentration everywhere along the surface of the earth and vertically throughout this area of mixing.

While atmospheric concentrations of CO_2 are fairly consistent globally, the potential for either adverse or beneficial effects in the U.S. from these concentrations depends on complicated interactions of many variables on the land, in the oceans, and in the atmosphere, occurring around the world and over long periods of time. Characterization and assessment of such effects and the relation of such effects to atmospheric

concentration of CO_2 in the U.S. would present scientific issues of unprecedented complexity in the NAAQS context. The long-lived nature of the CO_2 global pool would also make it extremely difficult to evaluate the extent over time to which effects in the U.S. would be related to anthropogenic emissions in the U.S. Finally, the nature of the global pool would mean that any CO_2 standard that might be established would in effect be a worldwide ambient air quality standard, not a national standard – the entire world would be either in compliance or out of compliance.

Such a situation would be inconsistent with a basic underlying premise of the CAA regime for implementation of a NAAQS - that actions taken by individual states and by EPA can generally bring all areas of the U.S. into attainment of a NAAQS. The statutory NAAQS implementation regime is fundamentally inadequate when it comes to a substance like CO_2, which is emitted globally and has relatively homogenous concentrations around the world. A NAAQS for CO_2, unlike any pollutant for which a NAAQS has been established, could not be attained by any area of the U.S. until such a standard were attained by the entire world as a result of emission controls implemented in countries around the world. The limited flexibility provided in the Act to address the impacts of foreign pollution transported to the U.S. was not designed to address the challenges presented by long-lived global atmospheric pools such as exist for CO_2. The globally pervasive nature of CO_2 emissions and atmospheric concentrations presents a unique problem that fundamentally differs from the kind of environmental problem that the NAAQS system was intended to address and is capable of solving.

Other congressional actions confirm that Congress did not authorize regulation under the CAA to address global climate change. Starting in 1978, Congress passed several pieces of

legislation specifically addressing global climate change. With the National Climate Program Act of 1978, 15 U.S.C. 2901 et seq., Congress established a "national climate program" to improve understanding of "climate processes, natural and man induced, and the social, economic, and political implications of climate change" through research, data collection, assessments, information dissemination, and international cooperation. In the Global Climate Protection Act of 1987, 22 U.S.C. 2651 note, Congress directed the Secretary of State to coordinate U.S. negotiations concerning climate change, and EPA to develop and propose to Congress a coordinated national policy on the issue. Three years later, Congress passed the Global Change Research Act of 1990, 15 U.S.C. 2931 et seq., establishing a Committee on Earth and Environmental Sciences to coordinate a 10-year research program. That statute was enacted one day after the CAA Amendments of 1990 was signed into law. Also in 1990, Congress passed Title XXIV of the Food and Agriculture Act, creating a Global Climate Change Program to research global climate agricultural issues (section 2401 of Pub.L. No. 101-624).

With these statutes Congress sought to develop a foundation for considering whether future legislative action was warranted and, if so, what that action should be. From federal agencies, it sought recommendations for national policy and further advances in scientific understanding and possible technological responses. It did not, however, authorize any federal agency to take any regulatory action in response to those recommendations and advances. In fact, Congress declined to adopt other legislative proposals, contemporaneous with the bills to amend the CAA in 1989 and 1990, to require GHG emissions reductions from stationary and mobile sources (see, e.g., S. 1224, 101st Cong. (1989); H.R. 5966, 101st Cong.

(1990)).[7] While Congress did not expressly preclude agencies from taking regulatory action under other statutes, its actions strongly indicate that when Congress was amending the CAA in 1990, it was awaiting further information before deciding *itself* whether regulation to address global climate change is warranted and, if so, what form it should take.

Since 1990, Congress has taken other actions consistent with the view that Congress did not authorize CAA regulation for global climate change purposes. In the 1992 Energy Policy Act, Congress called on the Secretary of Energy to assess various GHG control options and report back to Congress, and to establish a registry for reporting voluntary GHG reductions. Following ratification of the UNFCCC, nations party to the Convention negotiated the Kyoto Protocol calling for mandatory reductions in developed nations' GHG emissions. While the Kyoto Protocol was being negotiated, the Senate in 1997 adopted by a 95-0 vote the Byrd-Hagel Resolution, which stated that the U.S. should not be a signatory to any protocol that would result in serious harm to the economy of the U.S. or that would mandate new commitments to limit or reduce U.S. GHG emissions unless the Protocol also mandated new, specific, scheduled commitments to limit or reduce GHG emissions for developing countries within the same compliance period. Although the Clinton Administration signed the Kyoto Protocol, it did not submit it to the Senate for ratification out of concern that the Senate would reject the treaty. Congress also attached language to appropriations bills that until recently barred EPA from implementing the Kyoto Protocol without Senate ratification (see, e.g., the Knollenberg amendments to

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[7] The fact that many of these bills were considered in the context of national energy policy, not air pollution policy, is further illustration that Congress did not consider the CAA a vehicle for global climate change regulation. See, e.g., S. 324, 101st Cong. (1989); H.R. 5521, 101st Cong. (1990).

FY 1999 and 2000 VA-HUD and Independent Agencies Appropriations Acts).[8] Since enactment of the 1990 CAA amendments, numerous bills to control GHGs emissions from mobile and stationary sources have failed to win passage (see, e.g., H.R. 2663, 102d Cong., 1st Sess. 137 *Cong. Rec.* H4611 (daily ed. 1991)).

As noted above, the Supreme Court has ruled that facially broad grants of authority must be interpreted in the context of the statute's purpose, structure and history and other relevant congressional actions. In *Brown & Williamson*, the Court reviewed an FDA assertion of authority to regulate tobacco products under the Food, Drug and Cosmetic Act (FDCA). That statute contains a broadly worded grant of authority for FDA to regulate "drugs" and "devices," terms which the statute also broadly defines. However, the FDCA does not specifically address tobacco products while other federal laws expressly govern the marketing of those products.

Notwithstanding the FDCA's facially broad grant of authority, the Supreme Court explained that "[i]n extraordinary cases, . . . there may be reason to hesitate before concluding that Congress has intended such an implicit delegation." *Brown & Williamson*, 120 S.Ct. at 1314. The Court noted that FDA was "assert[ing] jurisdiction to regulate an industry constituting a significant portion of the American economy," despite the fact that "tobacco has its own unique political history" that had led Congress to create a distinct regulatory scheme for tobacco products. Id. at 1315. The Court concluded that FDA's assertion of authority to regulate tobacco was "hardly an ordinary case. " Id. The Court analyzed FDA's authority in light of the language, structure and history of the FDCA and

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[8] Since the President has made clear that the U.S. will not become a party to the Kyoto Protocol, there has been no continuing need for that restriction.

other federal legislation and congressional action specifically addressing tobacco regulation, including failed legislative attempts to confer authority of the type FDA was asserting. Based on that analysis, the Court determined that Congress did not "intend[] to delegate a decision of such economic and political significance . . . in so cryptic a fashion." Id.

As discussed in the Agency's response to the ICTA petition, regulation to address global climate change would have even greater potential significance than the regulation of tobacco under FDCA. By far the most abundant anthropogenic GHG is CO_2, which is emitted whenever fossil fuels such as coal, oil, and natural gas are used to produce energy. The production and use of fossil fuel-based energy undergirds almost every aspect of the nation's economy. For example, approximately 75 percent of the electric power used in the U.S. is generated from fossil fuel, and the country's transportation sector is almost entirely dependent on oil. To the extent significant reductions in U.S. CO_2 emissions were mandated by EPA, power generation and transportation would have to undergo widespread and wholesale transformations, affecting every sector of the nation's economy and threatening its overall economic health.

In view of the unusually profound implications of global climate change regulation, it is unreasonable to believe that Congress intended "to delegate a decision of such . . . significance . . . in so cryptic a fashion." Id. An administrative agency properly awaits congressional direction before addressing a fundamental policy issue such as global climate change, instead of searching for authority in an existing statute that was not designed or enacted to deal with the issue. I therefore conclude the CAA does not authorize regulation to address global climate change.

Because the CAA does not authorize regulation to address climate change, it follows that CO_2 and other GHGs, as such, are not air pollutants under the CAA's regulatory provisions, including sections 108, 109, 111, 112 and 202. CAA authorization to regulate is generally based on a finding that an air pollutant causes or contributes to air pollution that may reasonably be anticipated to endanger public health or welfare. CAA section 302(g) defines "air pollutant" as "any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air. Such term includes any precursors to the formation of any air pollutant[.]" The root of the definition indicates that for a substance to be an "air pollutant," it must be an "agent" of "air pollution." Because EPA lacks CAA regulatory authority to address global climate change, the term "air pollution" as used in the regulatory provisions cannot be interpreted to encompass global climate change. Thus, CO_2 and other GHGs are not "agents" of air pollution and do not satisfy the CAA section 302(g) definition of "air pollutant" for purposes of those provisions.[9]

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[9] In this opinion, I do not reach all of the possible legal grounds suggested in public comments on the petition for concluding that EPA may not issue regulations to address global climate change under the CAA. For example, I do not address whether the GHGs named in the petition are "air pollution agent[s] or combination of such agents" under CAA section 302(g) for regulatory purposes were they subject to regulation under the Act for global climate change purposes. As described previously, the Cannon memorandum interpreted "air pollutant" to mean "any physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters ambient air" – in other words, virtually anything entering the ambient air regardless of whether it pollutes the air. In arriving at this interpretation, the Cannon memorandum failed to address, and effectively read out, the "air pollution agent" language at the core of the definition, thereby ignoring traditional rules of statutory construction. The CAA's legislative history (continued...)

The Cannon memorandum and the statements of Mr. Guzy concerning the status of CO_2 as an air pollutant are withdrawn as inconsistent with the interpretation that the CAA does not confer regulatory authority to address global climate change.

Even though the CAA does not authorize regulation to address global climate change, the potential contribution of anthropogenic GHG emissions to global climate change is still properly the subject of research and other nonregulatory activities under the CAA. In particular, EPA may continue to develop, evaluate, and demonstrate nonregulatory strategies and technologies for preventing CO_2 and other GHG emissions under section 103(g). EPA's efforts in this regard answer Congress' consistent call for advances in our understanding of the global climate change issue.

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[9] (...continued)
confirms that "air pollution agent" is integral to the meaning of "air pollutant." The original definition of "air pollutant," added in 1977, included only the core of the definition in effect today – "any air pollutant agent or combination of such agents." In 1977 when Congress sought to address air pollution stemming from radioactive materials, the phrase "including any physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters ambient air" was added to the definition. While Congress did not explain the addition, its context made its purpose clear – to establish that virtually any type of substance, including radioactive substances, *could be* an air pollution agent. If Congress had instead intended to establish that an air pollutant is any physical, biological, chemical or radioactive substance entering the air, however, it presumably would have dropped the "agent" language from the definition as moot. Similarly, a sentence added in 1990 concerning precursors would have been unnecessary had the definition already encompassed everything physical, chemical, biological or radioactive that enters the air. Thus, if global climate change were a form of "air pollution" for purposes of the CAA's regulatory provisions, CO_2 and other GHGs would still have to qualify as "air pollution agents" for them to be "air pollutants" for regulatory purposes.

As the discussion above makes clear, lack of authority under the CAA to impose regulation to address global climate change does not leave the federal government powerless to address the issue. The CAA and other federal statutes provide the federal government with ample authority to conduct the research necessary to better understand the nature, extent and effects of any human-induced global climate change and to develop technologies and nonregulatory strategies that will help achieve GHG emission reductions to the extent they prove necessary. Congress, of course, may decide that further efforts are necessary and pass specific legislation to that effect.

V. Conclusion

Based on the analysis above, I conclude that the CAA does not authorize regulation to address global climate change. In view of consistent congressional action to learn more about global climate change, the absence of express authority to regulate global climate change, no indication of congressional intent to provide such authority, and the far-reaching implications of regulation to address global climate change, I believe EPA cannot assert jurisdiction to regulate in this area. The Cannon memorandum and the statements by Mr. Guzy concerning this matter no longer represent the views of EPA's General Counsel.

cc: Jeffrey R. Holmstead, Assistant Administrator for Air and Radiation

[from EPA administrative record]

CLIMATE CHANGE SCIENCE

AN ANALYSIS OF SOME KEY QUESTIONS

Committee on the Science of Climate Change
Division on Earth and Life Studies
National Research Council

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Foreword

This study originated from a White House request to help inform the Administration's ongoing review of U.S. climate change policy. In particular, the written request (Appendix A) asked for the National Academies' "assistance in identifying theareas in the science of climate change where there are the greatest certainties and uncertainties," and "views on whether there are any substantive differences between the IPCC [Intergovernmental Panel on Climate Change] Reports and the IPCC summaries."In addition, based on discussions with the Administration, the following specific questions were incorporated into the statement of task for the study:

- *What is the range of natural variability in climate?*
- *Are concentrations of greenhouse gases and other emissions that contribute to climate change increasing at an accelerating rate, and are different greenhouse gases and other emissions increasing at different rates?*
- *How long does it take to reduce the buildup of greenhouse gases and other emissions that contribute to climate change?*
- *What other emissions are contributing factors to climate change (e.g., aerosols, CO, black carbon soot), and what is their relative contribution to climate change?*
- *Do different greenhouse gases and other emissions have different draw down periods?*
- *Are greenhouse gases causing climate change?*
- *Is climate change occurring? If so, how?*
- *Is human activity the cause of increased concentrations of greenhouse gases and other emissions that contribute to climate change?*
- *How much of the expected climate change is the consequence of climate feedback processes (e.g., water vapor,*

clouds, snow packs)?

- *By how much will temperatures change over the next 100 years and where?*
- *What will be the consequences (e.g., extreme weather, health effects) of increases of various magnitudes?*
- *Has science determined whether there is a "safe" level of concentration of greenhouse gases?*
- *What are the substantive differences between the IPCC Reports and the Summaries?*
- *What are the specific areas of science that need to be studied further, in order of priority, to advance our understanding of climate change?*

The White House asked for a response "as soon as possible" but no later than early June—less than one month after submitting its formal request.

The National Academies has a mandate arising from its 1863 charter to respond to government requests when asked. In view of the critical nature of this issue, we agreed to undertake this study and to use our own funds to support it.

A distinguished committee with broad expertise and diverse perspectives on the scientific issues of climate change was therefore appointed through the National Academies' National Research Council (see Appendix B for biographical information on committee members). In early May, the committee held a conference call to discuss the specific questions and to prepare for its 2-day meeting (May 21-22, 2001) in Irvine, California. The committee reviewed the 14 questions and determined that they represent important issues in climate change science and could serve as a useful framework for addressing the two general questions from the White House.

For the task of comparing IPCC Reports and Summaries, the committee focused its review on the work of IPCC Working

Group I, which dealt with many of the same detailed questions being asked above. The committee decided to address the questions in the context of a brief document that also could serve as a primer for policy makers on climate change science. To aid in the presentation, the questions have been organized into seven sections, with the questions addressed in each section listed in *italics* at the beginning of that section.

While traditional procedures for an independent NRC study, including review of the report by independent experts, were followed, it is important to note that tradeoffs were made in order to accommodate the rapid schedule. For example, the report does not provide extensive references to the scientific literature or marshal detailed evidence to support its "answers" to the questions. Rather, the report largely presents the consensus scientific views and judgments of committee members, based on the accumulated knowledge that these individuals have gained—both through their own scholarly efforts and through formal and informal interactions with the world's climate change science community.

The result is a report that, in my view, provides policy makers with a succinct and balanced overview of what science can currently say about the potential for future climate change, while outlining the uncertainties that remain in our scientific knowledge.

The report does not make policy recommendations regarding what to do about the potential of global warming. Thus, it does not estimate the potential economic and environmental costs, benefits, and uncertainties regarding various policy responses andfuture human behaviors. While beyond the charge presented to this committee, scientists and social scientists have the abilityto provide assessments of this type as well. Both types of assessments can be helpful to policy makers, who frequently have to weigh tradeoffs and make decisions on important issues, despite the inevitable

uncertainties in our scientific understanding concerning particular aspects. Science never has all the answers. But science does provide us with the best available guide to the future, and it is critical that our nation and the world base important policies on the best judgments that science can provide concerning the future consequences of present actions.

I would especially like to thank the members of this committee and its staff for an incredible effort in producing this important report in such a short period of time. They have sacrificed many personal commitments and worked long weekends to provide the nation with their considered judgments on this critical issue.

Bruce Alberts
President
National Academy of Sciences

Acknowledgments

This report has been reviewed in draft form by individuals chosen for their diverse perspectives and technical expertise, in accordance with procedures approved by the NRC's Report Review Committee. The purpose of this independent review is to provide candid and critical comments that will assist the institution in making its published report as sound as possible and to ensure that the report meets institutional standards for objectivity, evidence, and responsiveness to the study charge. The review comments and draft manuscript remain confidential to protect the integrity of the deliberative process. We wish to thank the following individuals for their review of this report:

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Although the reviewers listed above have provided constructive comments and suggestions, they were not asked to endorse the conclusions or recommendations nor did they see the final draft of the report before its release. The review of this report was overseen by Richard M. Goody (Harvard University) and Robert A. Frosch (Harvard University). Appointed by the National Research Council, they were responsible for making certain that an independent examination of this report was carried out in accordance with institutional procedures and that all review comments were carefully considered. Responsibility for the final content of this report rests entirely with the authoring committee and the institution.

We would also like to thank the following individuals for their input regarding the IPCC process: John Christy, Haroon Kheshgi, Michael Mann, Jerry Meehl, Berrien Moore, Michael Oppenheimer, Joyce Penner, Ray Pierrehumbert, Michael Prather, Venkatachalam Ramaswamy, Ben Santer, Piers Sellers, Susan Solomon, Ron Stouffer, Kevin Trenberth, and Robert Watson.

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Summary

Greenhouse gases are accumulating in Earth's atmosphere as a result of human activities, causing surface air temperatures and subsurface ocean temperatures to rise. Temperatures are, in fact, rising. The changes observed over the last several decades are likely mostly due to human activities, but we cannot rule out that some significant part of these changes is also a reflection of natural variability. Human-induced warming and associated sea level rises are expected to continue through the 21st century. Secondary effects are suggested by computer model simulations and basic physical reasoning. These include increases in rainfall rates and increased susceptibility of semi-arid regions to drought. The impacts of these changes will be critically dependent on the magnitude of the warming and the rate with which it occurs.

The mid-range model estimate of human induced global warming by the Intergovernmental Panel on Climate Change (IPCC) is based on the premise that the growth rate of climate forcing[1] agents such as carbon dioxide will accelerate. The predicted warming of 3°C (5.4°F) by the end of the 21st century is consistent with the assumptions about how clouds and atmospheric relative humidity will react to global warming. This estimate is also consistent with inferences about the sensitivity[2] of climate drawn from comparing the sizes of past temperature swings between ice ages and intervening warmer periods with the corresponding changes in the climate forcing.

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[1] A climate forcing is defined as an imposed perturbation of Earth's energy balance. Climate forcing is typically measured in watts per square meter (W/m2).

[2] The sensitivity of the climate system to a prescribed forcing is commonly expressed in terms of the global mean temperature change that would be expected after a time sufficiently long for both the atmosphere and ocean to come to equilibrium with the change in climate forcing.

This predicted temperature increase is sensitive to assumptions concerning future concentrations of greenhouse gases and aerosols. Hence, national policy decisions made now and in the longer-term future will influence the extent of any damage suffered by vulnerable human populations and ecosystems later in this century. Because there is considerable uncertainty in current understanding of how the climate system varies naturally and reacts to emissions of greenhouse gases and aerosols, current estimates of the magnitude of future warming should be regarded as tentative and subject to future adjustments (either upward or downward).

Reducing the wide range of uncertainty inherent in current model predictions of global climate change will require major advances in understanding and modeling of both (1) the factors that determine atmospheric concentrations of greenhouse gases and aerosols, and (2) the so-called "feedbacks" that determine the sensitivity of the climate system to a prescribed increase in greenhouse gases. There also is a pressing need for a global observing system designed for monitoring climate.

The committee generally agrees with the assessment of human-caused climate change presented in the IPCC Working Group I (WGI) scientific report, but seeks here to articulate more clearly the level of confidence that can be ascribed to those assessments and the caveats that need to be attached to them. This articulation may be helpful to policy makers as they consider a variety of options for mitigation and/or adaptation. In the sections that follow, the committee provides brief responses to some of the key questions related to climate change science. More detailed responses to these questions are located in the main body of the text.

What is the range of natural variability in climate?

The range of natural climate variability is known to be quite

large (in excess of several degrees Celsius) on local and regional spatial scales over periods as short as a decade. Precipitation also can vary widely. For example, there is evidence to suggest that droughts as severe as the "dust bowl" of the 1930s were much more common in the central United States during the 10th to 14th centuries than they have been in the more recent record. Mean temperature variations at local sites have exceeded 10°C (18°F) in association with the repeated glacial advances and retreats that occurred over the course of the past million years. It is more difficult to estimate the natural variability of global mean temperature because of the sparse spatial coverage of existing data and difficulties in inferring temperatures from various proxy data. Nonetheless, evidence suggests that global warming rates as large as 2°C (3.6°F) per millennium may have occurred during retreat of the glaciers following the most recent ice age.

Are concentrations of greenhouse gases and other emissions that contribute to climate change increasing at an accelerating rate, and are different greenhouse gases and other emissions increasing at different rates? Is human activity the cause of increased concentrations of greenhouse gases and other emissions that contribute to climate change?

The emissions of some greenhouse gases are increasing, but others are decreasing. In some cases the decreases are a result of policy decisions, while in other cases the reasons for the decreases are not well understood.

Of the greenhouse gases that are directly influenced by human activity, the most important are carbon dioxide, methane, ozone, nitrous oxide, and chlorofluorocarbons (CFCs). Aerosols released by human activities are also capable of influencing climate. (Table 1 lists the estimated climate forcing due to the presence of each of these "climate forcing

agents" in the atmosphere.)

Concentrations of carbon dioxide (CO_2) extracted from ice cores drilled in Greenland and Antarctica have typically ranged from near 190 parts per million by volume (ppmv) during the ice ages to near 280 ppmv during the warmer "interglacial" periods like the present one that began around 10,000 years ago. Concentrations did not rise much above 280 ppmv until the Industrial Revolution. By 1958, when systematic atmospheric measurements began, they had reached 315 ppmv, and they are currently ~370 ppmv and rising at a rate of 1.5 ppmv per year (slightly higher than the rate during the early years of the 43-year record). Human activities are responsible for the increase. The primary source, fossil fuel burning, has released roughly twice as much carbon dioxide as would be required to account for the observed increase. Tropical deforestation also has contributed to carbon dioxide releases during the past few decades. The excess carbon dioxide has been taken up by the oceans and land biosphere.

Like carbon dioxide, methane (CH_4) is more abundant in Earth's atmosphere now than at any time during the 400,000 year long ice core record, which dates back over a number of glacial/interglacial cycles. Concentrations increased rather smoothly by about 1% per year from 1978, until about 1990. The rate of increase slowed and became more erratic during the 1990s. About two-thirds of the current emissions of methane are released by human activities such as rice growing, the raising of cattle, coal mining, use of land-fills, and natural gas handling, all of which have increased over the past 50 years.

A small fraction of the ozone (O_3) produced by natural processes in the stratosphere mixes into the lower atmosphere. This "tropospheric ozone" has been supplemented during the 20th century by additional ozone, created locally by the action of sunlight upon air polluted by exhausts from motor vehicles, emissions from fossil fuel burning power plants, and biomass

burning.

Nitrous oxide (N_2O) is formed by many microbial reactions in soils and waters, including those acting on the increasing amounts of nitrogen-containing fertilizers. Some synthetic chemical processes that release nitrous oxide have also been identified. Its concentration has increased approximately 13% in the past 200 years.

Atmospheric concentrations of CFCs rose steadily following their first synthesis in 1928 and peaked in the early 1990s. Many other industrially useful fluorinated compounds (e.g., carbon tetrafluoride, CF_4, and sulfur hexafluoride, SF_6), have very long atmospheric lifetimes, which is of concern, even though their atmospheric concentrations have not yet produced large radiative forcings. Hydrofluorocarbons (HFCs), which are replacing CFCs, have a greenhouse effect, but it is much less pronounced because of their shorter atmospheric lifetimes. The sensitivity and generality of modern analytical systems make it quite unlikely that any currently significant greenhouse gases remain to be discovered.

What other emissions are contributing factors to climate change (e.g., aerosols, CO, black carbon soot), and what is their relative contribution to climate change?

Besides greenhouse gases, human activity also contributes to the atmospheric burden of aerosols, which include both sulfate particles and black carbon (soot). Both are unevenly distributed, owing to their short lifetimes in the atmosphere. Sulfate particles scatter solar radiation back to space, thereby offsetting the greenhouse effect to some degree. Recent "clean coal technologies" and use of low sulfur fuels have resulted in decreasing sulfate concentrations, especially in North America, reducing this offset. Black carbon aerosols are end-products of the incomplete combustion of fossil fuels and biomass burning

(forest fires and land clearing). They impact radiation budgets both directly and indirectly; they are believed to contribute to global warming, although their relative importance is difficult to quantify at this point.

How long does it take to reduce the buildup of greenhouse gases and other emissions that contribute to climate change? Do different greenhouse gases and other emissions have different draw down periods?

TABLE 1 Removal Times and Climate Forcing Values for Specified Atmospheric Gases and Aerosols

Forcing Agent	Approximate Removal Times[3]	Climate Forcing (W/m2) Up to the year 2000
Greenhouse Gases		
Carbon Dioxide	>100 years	1.3 to 1.5
Methane	10 years	0.5 to 0.7
Tropospheric Ozone	10-100 days	0.25 to 0.75
Nitrous Oxide	100 years	0.1 to 0.2
Perfluorocarbon Compounds (Including SF_6)	>1000 years	0.01
Fine Aerosols		
Sulfate	10 days	−0.3 to −1.0
Black Carbon	10 days	0.1 to 0.8

[3]A removal time of 100 years means that much, but not all, of the substance would be gone in 100 years. Typically, the amount remaining at the end of 100 years is 37%; after 200 years 14%; after 300 years 5%; after 400 years 2%.

Is climate change occurring? If so, how?

Weather station records and ship-based observations indicate that global mean surface air temperature warmed between about 0.4 and 0.8°C (0.7 and 1.5°F) during the 20th century. Although the magnitude of warming varies locally, the warming trend is spatially widespread and is consistent with an array of other evidence detailed in this report. The ocean, which represents the largest reservoir of heat in the climate system, has warmed by about 0.05°C (0.09°F) averaged over the layer extending from the surface down to 10,000 feet, since the 1950s.

The observed warming has not proceeded at a uniform rate. Virtually all the 20th century warming in global surface air temperature occurred between the early 1900s and the 1940s and during the past few decades. The troposphere warmed much more during the 1970s than during the two subsequent decades, whereas Earth's surface warmed more during the past two decades than during the 1970s. The causes of these irregularities and the disparities in the timing are not completely understood. One striking change of the past 35 years is the cooling of the stratosphere at altitudes of ~13 miles, which has tended to be concentrated in the wintertime polar cap region.

Are greenhouse gases causing climate change?

The IPCC's conclusion that most of the observed warming of the last 50 years is likely to have been due to the increase in greenhouse gas concentrations accurately reflects the current thinking of the scientific community on this issue. The stated degree of confidence in the IPCC assessment is higher today than it was 10, or even 5 years ago, but uncertainty remains because of (1) the level of natural variability inherent in the climate system on time scales of decades to centuries, (2) the

questionable ability of models to accurately simulate natural variability on those long time scales, and (3) the degree of confidence that can be placed on reconstructions of global mean temperature over the past millennium based on proxy evidence. Despite the uncertainties, there is general agreement that the observed warming is real and particularly strong within the past 20 years. Whether it is consistent with the change that would be expected in response to human activities is dependent upon what assumptions one makes about the time history of atmospheric concentrations of the various forcing agents, particularly aerosols.

By how much will temperatures change over the next 100 years and where?

Climate change simulations for the period of 1990 to 2100 based on the IPCC emissions scenarios yield a globally-averaged surface temperature increase by the end of the century of 1.4 to 5.8°C (2.5 to 10.4°F) relative to 1990. The wide range of uncertainty in these estimates reflects both the different assumptions about future concentrations of greenhouse gases and aerosols in the various scenarios considered by the IPCC and the differing climate sensitivities of the various climate models used in the simulations. The range of climate sensitivities implied by these predictions is generally consistent with previously reported values.

The predicted warming is larger over higher latitudes than over low latitudes, especially during winter and spring, and larger over land than over sea. Rainfall rates and the frequency of heavy precipitation events are predicted to increase, particularly over the higher latitudes. Higher evaporation rates would accelerate the drying of soils following rain events, resulting in lower relative humidities and higher daytime temperatures, especially during the warm season. The

likelihood that this effect could prove important is greatest in semi-arid regions, such as the U.S. Great Plains. These predictions in the IPCC report are consistent with current understanding of the processes that control local climate.

In addition to the IPCC scenarios for future increases in greenhouse gas concentrations, the committee considered a scenario based on an energy policy designed to keep climate change moderate in the next 50 years. This scenario takes into account not only the growth of carbon emissions, but also the changing concentrations of other greenhouse gases and aerosols.

Sufficient time has elapsed now to enable comparisons between observed trends in the concentrations of carbon dioxide and other greenhouse gases with the trends predicted in previous IPCC reports. The increase of global fossil fuel carbon dioxide emissions in the past decade has averaged 0.6% per year, which is somewhat below the range of IPCC scenarios, and the same is true for atmospheric methane concentrations. It is not known whether these slowdowns in growth rate will persist.

How much of the expected climate change is the consequence of climate feedback processes (e.g., water vapor, clouds, snow packs)?

The contribution of feedbacks to the climate change depends upon "climate sensitivity," as described in the report. If a central estimate of climate sensitivity is used, about 40% of the predicted warming is due to the direct effects of greenhouse gases and aerosols. The other 60% is caused by feedbacks. Water vapor feedback (the additional greenhouse effect accruing from increasing concentrations of atmospheric water vapor as the atmosphere warms) is the most important feedback in the models. Unless the relative humidity in the tropical

middle and upper troposphere drops, this effect is expected to increase the temperature response to increases in human induced greenhouse gas concentrations by a factor of 1.6. The ice-albedo feedback (the reduction in the fraction of incoming solar radiation reflected back to space as snow and ice cover recede) also is believed to be important. Together, these two feedbacks amplify the simulated climate response to the greenhouse gas forcing by a factor of 2.5. In addition, changes in cloud cover, in the relative amounts of high versus low clouds, and in the mean and vertical distribution of relative humidity could either enhance or reduce the amplitude of the warming. Much of the difference in predictions of global warming by various climate models is attributable to the fact that each model represents these processes in its own particular way. These uncertainties will remain until a more fundamental understanding of the processes that control atmospheric relative humidity and clouds is achieved.

What will be the consequences (e.g., extreme weather, health effects) of increases of various magnitude?

In the near term, agriculture and forestry are likely to benefit from carbon dioxide fertilization and an increased water efficiency of some plants at higher atmospheric CO_2 concentrations. The optimal climate for crops may change, requiring significant regional adaptations. Some models project an increased tendency toward drought over semi-arid regions, such as the U.S. Great Plains. Hydrologic impacts could be significant over the western United States, where much of the water supply is dependent on the amount of snow pack and the timing of the spring runoff. Increased rainfall rates could impact pollution run-off and flood control. With higher sea level, coastal regions could be subject to increased wind and flood damage even if tropical storms do not change in intensity.

A significant warming also could have far reaching implications for ecosystems. The costs and risks involved are difficult to quantify at this point and are, in any case, beyond the scope of this brief report.

Health outcomes in response to climate change are the subject of intense debate. Climate is one of a number of factors influencing the incidence of infectious disease. Coldrelated stress would decline in a warmer climate, while heat stress and smog induced respiratory illnesses in major urban areas would increase, if no adaptation occurred. Over much of the United States, adverse health outcomes would likely be mitigated by a strong public health system, relatively high levels of public awareness, and a high standard of living.

Global warming could well have serious adverse societal and ecological impacts by the end of this century, especially if globally-averaged temperature increases approach the upper end of the IPCC projections. Even in the more conservative scenarios, the models project temperatures and sea levels that continue to increase well beyond the end of this century, suggesting that assessments that examine only the next 100 years may well underestimate the magnitude of the eventual impacts.

Has science determined whether there is a "safe" level of concentration of greenhouse gases?

The question of whether there exists a "safe" level of concentration of greenhouse gases cannot be answered directly because it would require a value judgment of what constitutes an acceptable risk to human welfare and ecosystems in various parts of the world, as well as a more quantitative assessment of the risks and costs associated with the various impacts of global warming. In general, however, risk increases with increases in both the rate and the magnitude of climate change.

What are the substantive differences between the IPCC Reports and the Summaries?

The committee finds that the full IPCC Working Group I (WGI) report is an admirable summary of research activities in climate science, and the full report is adequately summarized in the *Technical Summary*. The full WGI report and its *Technical Summary* are not specifically directed at policy. The *Summary for Policymakers* reflects less emphasis on communicating the basis for uncertainty and a stronger emphasis on areas of major concern associated with human induced climate change. This change in emphasis appears to be the result of a summary process in which scientists work with policy makers on the document. Written responses from U.S. coordinating and lead scientific authors to the committee indicate, however, that (a) no changes were made without the consent of the convening lead authors (this group represents a fraction of the lead and contributing authors) and (b) most changes that did occur lacked significant impact.

It is critical that the IPCC process remain truly representative of the scientific community. The committee's concerns focus primarily on whether the process is likely to become less representative in the future because of the growing voluntary time commitment required to participate as a lead or coordinating author and the potential that the scientific process will be viewed as being too heavily influenced by governments which have specific postures with regard to treaties, emission controls, and other policy instruments. The United States should promote actions that improve the IPCC process while also ensuring that its strengths are maintained.

What are the specific areas of science that need to be studied further, in order of priority, to advance our understanding of climate change?

Making progress in reducing the large uncertainties in projections of future climate will require addressing a number of fundamental scientific questions relating to the buildup of greenhouses gases in the atmosphere and the behavior of the climate system. Issues that need to be addressed include (a) the future usage of fossil fuels, (b) the future emissions of methane, (c) the fraction of the future fossil-fuel carbon that will remain in the atmosphere and provide radiative forcing versus exchange with the oceans or net exchange with the land biosphere, (d) the feedbacks in the climate system that determine both the magnitude of the change and the rate of energy uptake by the oceans, which together determine the magnitude and time history of the temperature increases for a given radiative forcing, (e) details of the regional and local climate change consequent to an overall level of global climate change, (f) the nature and causes of the natural variability of climate and its interactions with forced changes, and (g) the direct and indirect effects of the changing distributions of aerosols. Maintaining a vigorous, ongoing program of basic research, funded and managed independently of the climate assessment activity, will be crucial for narrowing these uncertainties.

In addition, the research enterprise dealing with environmental change and the interactions of human society with the environment must be enhanced. This includes support of (a) interdisciplinary research that couples physical, chemical, biological, and human systems, (b) an improved capability of integrating scientific knowledge, including its uncertainty, into effective decision support systems, and (c) an ability to conduct research at the regional or sectoral level that promotes analysis of the response of human and natural systems to multiple stresses.

An effective strategy for advancing the understanding of

climate change also will require (1) a global observing system in support of long-term climate monitoring and prediction, (2) concentration on large-scale modeling through increased, dedicated supercomputing and human resources, and (3) efforts to ensure that climate research is supported and managed to ensure innovation, effectiveness, and efficiency.

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Climate, Climate Forcings, Climate Sensitivity, and Transient Climate Change

CLIMATE

Climate is the average state of the atmosphere and the underlying land or water, on time scales of seasons and longer. Climate is typically described by the statistics of a set of atmospheric and surface variables, such as temperature, precipitation, wind, humidity, cloudiness, soil moisture, sea surface temperature, and the concentration and thickness of sea ice. The statistics may be in terms of the long-term average, as well as other measures such as daily minimum temperature, length of the growing season, or frequency of floods. Although climate and climate change are usually presented in global mean terms, there may be large local and regional departures from these global means. These can either mitigate or exaggerate the impact of climate change in different parts of the world.

A number of factors contribute to climate and climate change, and it is useful to define the terms climate forcings, climate sensitivity, and transient climate change for discussion below.

CLIMATE FORCINGS

A climate forcing can be defined as an imposed perturbation of Earth's energy balance. Energy flows in from the sun, much of it in the visible wavelengths, and back out again as long-wave infrared (heat) radiation. An increase in the luminosity of the sun, for example, is a positive forcing that tends to make Earth warmer. A very large volcanic eruption, on the other hand, can increase the aerosols (fine particles) in the lower stratosphere (altitudes of 10-15 miles) that reflect sunlight to space and thus reduce the solar energy delivered to Earth's surface. These examples are natural forcings. Human-made forcings result from, for example, the gases and aerosols produced by fossil fuel burning, and alterations of Earth's surface from various changes in land use, such as the conversion of forests into agricultural land. Those gases that absorb infrared radiation, i.e., the "greenhouse" gases, tend to prevent this heat radiation from escaping to space, leading eventually to a warming of Earth's surface. The observations of human-induced forcings underlie the current concerns about climate change.

The common unit of measure for climatic forcing agents is the energy perturbation that they introduce into the climate system, measured in units of watts per square meter (W/m2). The consequences from such forcings are often then expressed as the change in average global temperature, and the conversion factor from forcing to temperature change is the sensitivity of Earth's climate system. Although some forcings—volcanic plumes, for example—are not global in nature and temperature change may also not be uniform, comparisons of the strengths of individual forcings, over comparable areas, are useful for estimating the relative importance of the various processes that may cause climate change.

CLIMATE SENSITIVITY

The sensitivity of the climate system to a forcing is commonly expressed in terms of the global mean temperature change that would be expected after a time sufficiently long for both the atmosphere and ocean to come to equilibrium with the change in climate forcing. If there were no climate feedbacks, the response of Earth's mean temperature to a forcing of 4 W/m2 (the forcing for a doubled atmospheric CO_2) would be an increase of about 1.2°C (about 2.2°F). However, the total climate change is affected not only by the immediate direct forcing, but also by climate "feedbacks" that come into play in response to the forcing. For example, a climate forcing that causes warming may melt some of the sea ice. This is a positive feedback because the darker ocean absorbs more sunlight than the sea ice it replaced. The responses of atmospheric water vapor amount and clouds probably generate the most important global climate feedbacks. The nature and magnitude of these hydrologic feedbacks give rise to the largest source of uncertainty about climate sensitivity, and they are an area of continuing research.

As just mentioned, a doubling of the concentration of carbon dioxide (from the pre-Industrial value of 280 parts per million) in the global atmosphere causes a forcing of 4 W/ m2. The central value of the climate sensitivity to this change is a global average temperature increase of 3°C (5.4°F), but with a range from 1.5°C to 4.5°C (2.7 to 8.1°F) (based on climate system models: see section 4). The central value of 3°C is an amplification by a factor of 2.5 over the direct effect of 1.2°C (2.2°F). Well-documented climate changes during the history of Earth, especially the changes between the last major ice age (20,000 years ago) and the current warm period, imply that the climate sensitivity is near the 3°C value. However, the true climate sensitivity remains uncertain, in part because it is

difficult to model the effect of cloud feedback. In particular, the magnitude and even the sign of the feedback can differ according to the composition, thickness, and altitude of the clouds, and some studies have suggested a lesser climate sensitivity. On the other hand, evidence from paleoclimate variations indicates that climate sensitivity could be higher than the above range, although perhaps only on longer time scales.

TRANSIENT CLIMATE CHANGE

Climate fluctuates in the absence of any change in forcing, just as weather fluctuates from day to day. Climate also responds in a systematic way to climate forcings, but the response can be slow because the ocean requires time to warm (or cool) in response to the forcing. The response time depends upon the rapidity with which the ocean circulation transmits changes in surface temperature into the deep ocean. If the climate sensitivity is as high as the 3°C mid-range, then a few decades are required for just half of the full climate response to be realized, and at least several centuries for the full response.[1]

Such a long climate response time complicates the climate change issue for policy makers because it means that a discovered undesirable climate change is likely to require many decades to halt or reverse.

Increases in the temperature of the ocean that are initiated in the next few decades will continue to raise sea level by ocean thermal expansion over the next several centuries. Although society might conclude that it is practical to live with substantial climate change in the coming decades, it is also important to consider further consequences that may occur in

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[1] The time required for the full response to be realized depends, in part, on the rate of heat transfer from the ocean mixed layer to the deeper ocean. Slower transfer leads to shorter response times on Earth's surface.

later centuries. The climate sensitivity and the dynamics of large ice sheets become increasingly relevant on such longer time scales.

It is also possible that climate could undergo a sudden large change in response to accumulated climate forcing. The paleoclimate record contains examples of sudden large climate changes, at least on regional scales. Understanding these rapid changes is a current research challenge that is relevant to the analysis of possible anthropogenic climate effects.

2

Natural Climatic Variations

What is the range of natural variability in climate?

Climate is continually varying on time scales ranging from seasons to the lifetime of Earth. Natural climate changes can take place on short time scales as a result of the rapid alterations to forcings (as described in section 1). For example, the injection of large quantities of sulfur dioxide (SO_2), which changes to sulfuric acid droplets, and fine particulate material into the stratosphere (the region between 10 and 30 miles altitude where the temperature rises with increasing altitude) by major volcanic eruptions like that of Mt. Pinatubo in 1991 can cause intervals of cooler than average global temperatures. Climate variability also can be generated by processes operating within the climate system— the periodic rapid warming trend in the eastern Pacific Ocean known as El Niño being perhaps the best known example. Each of these different processes produces climate variability with its own characteristic spatial and seasonal signature. For example, El Niño typically brings heavy rainstorms to coastal Ecuador, Peru, and California and droughts to Indonesia and Northeast

Brazil.

Over long time scales, outside the time period in which humans could have a substantive effect on global climate (e.g., prior to the Industrial Revolution), proxy data (information derived from the content of tree rings, cores from marine sediments, pollens, etc.) have been used to estimate the range of natural climate variability. An important recent addition to the collection of proxy evidence is ice cores obtained by international teams of scientists drilling through miles of ice in Antarctica and at the opposite end of the world in Greenland. The results can be used to make inferences about climate and atmospheric composition extending back as long as 400,000 years. These and other proxy data indicate that the range of natural climate variability is in excess of several degrees C on local and regional space scales over periods as short as a decade. Precipitation has also varied widely. For example, there is evidence to suggest that droughts as severe as the "dust bowl" of the 1930s were much more common in the central United States during the 10th to 14th centuries than they have been in the more recent record.

Temperature variations at local sites have exceeded 10°C (18°F) in association with the repeated glacial advances and retreats that occurred over the course of the past million years. It is more difficult to estimate the natural variability of global mean temperature because large areas of the world are not sampled and because of the large uncertainties inherent in temperatures inferred from proxy evidence. Nonetheless, evidence suggests that global warming rates as large as 2°C (3.6°F) per millennium may have occurred during the retreat of the glaciers following the most recent ice age.

3

Human Caused Forcings

Are concentrations of greenhouse gases and other emissions that contribute to climate change increasing at an accelerating rate, and are different greenhouse gases and other emissions increasing at different rates?

Is human activity the cause of increased concentrations of greenhouse gases and other emissions that contribute to climate change?

What other emissions are contributing factors to climate change (e.g., aerosols, CO, black carbon soot), and what is their relative contribution to climate change?

How long does it take to reduce the buildup of greenhouse gases and other emissions that contribute to climate change?

Do different greenhouse gases and other emissions have different draw down periods?

Are greenhouse gases causing climate change?

GREENHOUSE GASES

The most important greenhouse gases in Earth's atmosphere include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), water vapor (H_2O), ozone (O_3), and the chlorofluorocarbons (CFCs including CFC-12 (CCl_2F_2) and CFC-11 (CCl_3F)). In addition to reflecting sunlight, clouds are also a major greenhouse substance. Water vapor and cloud droplets are in fact the dominant atmospheric absorbers, and

how these substances respond to climate forcings is a principal determinant of climate sensitivity, as discussed in Section 1. The CO_2, CH_4, N_2O and H_2O are both produced and utilized in many biological processes, although the major source of gaseous water is evaporation from the oceans. Ozone is created in the atmosphere by reactions initiated by sunlight. The CFCs are synthetic compounds developed and released into the atmosphere by humankind. In addition, sulfur hexafluoride (SF_6) and perfluorocarbon gases such as carbon tetrafluoride (CF_4) are very potent and nearly inert greenhouse gases with atmospheric lifetimes much longer than 1000 years.

The natural atmosphere contained many greenhouse gases whose atmospheric concentrations were determined by the sum of the ongoing geophysical, biological, and chemical reactions that produce and destroy them. The specific effects of humankind's activities before the industrial era were immersed in all of the natural dynamics and became noticeable only in the immediate vicinity, as with the smoke from small fires. The theoretical realization that human activities could have a global discernible effect on the atmosphere came during the 19th century, and the first conclusive measurements of atmospheric change were made during the last half of the 20th century. The first greenhouse gas demonstrated to be increasing in atmospheric concentration was carbon dioxide, formed as a major end product in the extraction of energy from the burning of the fossil fuels—coal, oil, and natural gas—as well as in the burning of biomass.

The common characteristics of greenhouse gases are (1) an ability to absorb terrestrial infrared radiation and (2) a presence in Earth's atmosphere. The most important greenhouse gases listed above all contain three or more atoms per molecule. Literally thousands of gases have been identified as being present in the atmosphere at some place and at some time, and all but a few have the ability to absorb terrestrial infrared

radiation. However, the great majority of these chemical compounds, both natural[1] and anthropogenic, are removed in hours, days, or weeks, and do not accumulate in significant concentrations. Some can have an indirect greenhouse effect, as with carbon monoxide (CO).[2] If the average survival time for a gas in the atmosphere is a year or longer, then the winds have time to spread it throughout the lower atmosphere, and its absorption of terrestrial infrared radiation occurs at all latitudes and longitudes. All the listed greenhouse gases except ozone are released to the atmosphere at Earth's surface and are spread globally throughout the lower atmosphere. The lifetime of CH_4 in the atmosphere is 10-12 years. Nitrous oxide and the CFCs have century-long lifetimes before they are destroyed in the stratosphere. Atmospheric CO_2 is not destroyed chemically, and its removal from the atmosphere takes place through multiple processes that transiently store the carbon in the land and ocean reservoirs, and ultimately as mineral deposits. A major removal process depends on the transfer of the carbon content of near-surface waters to the deep ocean, which has a century time scale, but final removal stretches out over hundreds of thousands of years. Reductions in the atmospheric concentrations of these gases following possible lowered emission rates in the future will stretch out over decades for methane, and centuries and longer for carbon dioxide and nitrous oxide.

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[1] While the activities of mankind are part of the natural world, the convention exists in most discussions of the atmosphere that "natural processes" are those that would still exist without the presence of human beings; those processes that are significantly influenced by humans are called "anthropogenic".

[2] Both carbon monoxide and methane are removed from the atmosphere by chemical reaction with hydroxyl (OH). An increase in the carbon monoxide uses up hydroxyl, slowing methane removal and allowing its concentration and greenhouse effect to increase.

Methane, nitrous oxide, and ozone all have natural sources, but they can also be introduced into the atmosphere by the activities of humankind. These supplementary sources have contributed to the increasing concentrations of these gases during the 20th century.

Carbon Dioxide

While all of the major greenhouse gases have both natural and anthropogenic atmospheric sources, the nature of these processes varies widely among them. Carbon dioxide is naturally absorbed and released by the terrestrial biosphere as well as by the oceans. Carbon dioxide is also formed by the burning of wood, coal, oil, and natural gas, and these activities have increased steadily during the last two centuries since the Industrial Revolution. That the burning of fossil fuels is a major cause of the CO_2 increase is evidenced by the concomitant decreases in the relative abundance of both the stable and radioactive carbon isotopes[3] and the decrease in atmospheric oxygen. Continuous high-precision measurements have been made of its atmospheric concentrations only since 1958, and by the year 2000 the concentrations had increased 17% from 315 parts per million by volume (ppmv) to 370 ppmv. While the year-to-year increase varies, the average annual increase of 1.5 ppmv/year over the past two decades is slightly greater than during the 1960s and 1970s. A marked seasonal oscillation of carbon dioxide concentration exists, especially in the northern hemisphere because of the extensive draw down of carbon dioxide every spring and summer as the green plants convert carbon dioxide into plant material, and the return in the rest of

[3] Fossil fuels are of biological origin and are depleted in both the stable isotope 13C and the radioactive isotope 14C, which has a half-life of 5600 years.

the year as decomposition exceeds photosynthesis. The seasonal effects are quite different north and south of the equator, with the variation much greater in the northern hemisphere where most of Earth's land surface and its vegetation and soils are found.

The atmospheric CO_2 increase over the past few decades is less than the input from human activities because a fraction of the added CO_2 is removed by oceanic and terrestrial processes. Until recently, the partitioning of the carbon sink between the land and sea has been highly uncertain, but recent high-precision measurements of the atmospheric oxygen:nitrogen (O_2:N_2) ratio have provided a crucial constraint: fossil fuel burning and terrestrial uptake processes have different O_2:CO_2 ratios, whereas the ocean CO_2 sink has no significant impact on atmospheric O_2. The atmospheric CO_2 increase for the 1990s was about half the CO_2 emission from fossil fuel combustion, with the oceans and land both serving as important repositories of the excess carbon, i.e., as carbon sinks.

Land gains and loses carbon by various processes: some natural-like photosynthesis and decomposition, some connected to land use and land management practices, and some responding to the increases of carbon dioxide or other nutrients necessary for plant growth. These gains or losses dominate the net land exchange of carbon dioxide with the atmosphere, but some riverine loss to oceans is also significant. Most quantifiable, as by forest and soil inventories, are the above- and below-ground carbon losses from land clearing and the gains in storage in trees from forest recovery and management. Changes in the frequency of forest fires, such as from fire suppression policies, and agricultural practices for soil conservation may modify the carbon stored by land. Climate variations, through their effects on plant growth and decomposition of soil detritus, also have large effects on terrestrial carbon fluxes and storage on a year-to-year basis.

Land modifications, mainly in the middle latitudes of the northern hemisphere, may have been a net source of carbon dioxide to the atmosphere over much of the last century. However, quantitative estimates have only been possible over the last two decades, when forest clearing had shifted to the tropics. In the 1980s land became a small net sink for carbon, that is, the various processes storing carbon globally exceeded the loss due to tropical deforestation, which by itself was estimated to add 10-40% as much carbon dioxide to the atmosphere as burning of fossil fuels. In the 1990s the net storage on land became much larger, nearly as large as the ocean uptake. How land contributes, by location and processes, to exchanges of carbon with the atmosphere is still highly uncertain, as is the possibility that the substantial net removal will continue to occur very far into the future.[4]

Methane

Methane is the major component of natural gas and it is also formed and released to the atmosphere by many biologic processes in low oxygen environments, such as those occurring in swamps, near the roots of rice plants, and the stomachs of cows. Such human activities as rice growing, the raising of cattle, coal mining, use of land-fills, and naturalgas handling have increased over the last 50 years, and direct and inadvertent emissions from these activities have been partially responsible for the increase in atmospheric methane. Its atmospheric concentration has been measured globally and continuously for only two decades, and the majority of the methane molecules

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[4] The variations and uncertainties in the land carbon balance are important not only in the contemporary carbon budget. While the terrestrial carbon reservoirs are small compared to the oceans, the possibility of destabilizing land ecosystems and releasing the stored carbon, e.g. from the tundra soils, has been hypothesized.

are of recent biologic origin. The concentrations of methane increased rather smoothly from 1.52 ppmv in 1978 by about 1% per year until about 1990. The rate of increase slowed down to less than that rate during the 1990s, and also became more erratic; current values are around 1.77 ppmv. About two-thirds of the current emissions of methane are released by human activities. There is no definitive scientific basis for choosing among several possible explanations for these variations in the rates of change of global methane concentrations, making it very difficult to predict its future atmospheric concentrations.

Both carbon dioxide and methane were trapped long ago in air bubbles preserved in Greenland and Antarctic ice sheets. These ice sheets are surviving relics of the series of ice ages that Earth experienced over the past 400,000 years. Concentrations of carbon dioxide extracted from ice cores have typically ranged between 190 ppmv during the ice ages to near 280 ppmv during the warmer "interglacial" periods like the present one that began around 10,000 years ago. Concentrations did not rise much above 280 ppmv until the Industrial Revolution. The methane concentrations have also varied during this 400,000 year period, with lowest values of 0.30 ppmv in the coldest times of the ice ages and 0.70 ppmv in the warmest, until a steady rise began about 200 years ago toward the present concentrations. Both carbon dioxide and methane are more abundant in Earth's atmosphere now than at any time during the past 400,000 years.

Other Greenhouse Gases

Nitrous oxide is formed by many microbial reactions in soils and waters, including those processes acting on the increasing amounts of nitrogen-containing fertilizers. Some synthetic chemical processes that release nitrous oxide have also been identified. Its concentration remained about 0.27

ppmv for at least 1,000 years until two centuries ago, when the rise to the current 0.31 ppmv began.

Ozone is created mainly by the action of solar ultraviolet radiation on molecular oxygen in the upper atmosphere, and most of it remains in the stratosphere. However, a fraction of such ozone descends naturally into the lower atmosphere where additional chemical processes can both form and destroy it. This "tropospheric ozone" has been supplemented during the 20th century by additional ozone—an important component of photochemical smog—created by the action of sunlight upon pollutant molecules containing carbon and nitrogen. The most important of the latter include compounds such as ethylene (C_2H_4), carbon monoxide (CO), and nitric oxide released in the exhaust of fossil-fuel-powered motor vehicles and power plants and during combustion of biomass. The lifetime of ozone is short enough that the molecules do not mix throughout the lower atmosphere, but instead are found in broad plumes downwind from the cities of origin, which merge into regional effects, and into a latitude band of relatively high ozone extending from 30°N to 50°N that encircles Earth during Northern Hemisphere spring and summer. The presence of shorter-lived molecules, such as ozone, in the troposphere depends upon a steady supply of newly formed molecules, such as those created daily by traffic in the large cities of the world. The widespread practice of clearing forests and agricultural wastes ("biomass burning"), especially noticeable in the tropics and the Southern Hemisphere, contributes to tropospheric ozone.

The chlorofluorocarbons (CFCs) are different from the gases considered above in that they have no significant natural source but were synthesized for their technological utility. Essentially all of the major uses of the CFCs—as refrigerants, aerosol propellants, plastic foaming agents, cleaning solvents, and so on—result in their release, chemically unaltered, into the

atmosphere. The atmospheric concentrations of the CFCs rose, slowly at first, from zero before first synthesis in 1928, and then more rapidly in the 1960s and 1970s with the development of a widening range of technological applications. The concentrations were rising in the 1980s at a rate of about 18 parts per trillion by volume (pptv) per year for CFC-12; 9 pptv/year for CFC-11, and 6 pptv/year for CFC-113 (CCl_2FCClF_2). Because these molecules were identified as agents causing the destruction of stratospheric ozone,[5] their production was banned in the industrial countries as of January 1996 under the terms of the 1992 revision of the Montreal Protocol, and further emissions have almost stopped. The atmospheric concentrations of CFC-11 and CFC-113 are now slowly decreasing, and that of CFC-12 has been essentially level for the past several years. However, because of the century-long lifetimes of these CFC molecules, appreciable atmospheric concentrations of each will survive well into the 22nd century.

Many other fluorinated compounds (such as carbon tetrafluoride, CF_4, and sulfur hexafluoride, SF_6), also have technological utility, and significant greenhouse gas capabilities. Their very long atmospheric lifetimes are a source of concern even though their atmospheric concentrations have not yet produced large radiative forcings. Members of the class of compounds called hydrofluorocarbons (HFCs) also have a greenhouse effect from the fluorine, but the hydrogen in the molecule allows reaction in the troposphere, reducing both its atmospheric lifetime and the possible greenhouse effect. The atmospheric concentrations of all these gases, which to date are

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[5] Eighty-five percent of the mass of the atmosphere lies in the troposphere, the region between the surface and an altitude of about 10 miles. About 90% of Earth's ozone is found in the stratosphere, and the rest is in the troposphere.

only very minor greenhouse contributors, need to be continuously monitored to ensure that no major sources have developed. The sensitivity and generality of modern analytic systems make it unlikely that any additional greenhouse gas will be discovered that is already a significant contributor to the current total greenhouse effect.

AEROSOLS

Sulfate and carbon-bearing compounds associated with particles (i.e., carbonaceous aerosols) are two classes of aerosols that impact radiative balances, and therefore influence climate.

Black Carbon (soot)

The study of the role of black carbon in the atmosphere is relatively new. As a result it is characterized poorly as to its composition, emission source strengths, and influence on radiation. Black carbon is an end product of the incomplete combustion of fossil fuels and biomass, the latter resulting from both natural and human-influenced processes. Most of the black carbon is associated with fine particles (radius <0.2 ∝m) that have global residence times of about one week. These lifetimes are considerably shorter than those of most greenhouse gases, and thus the spatial distribution of black carbon aerosol is highly variable, with the greatest concentrations near the production regions. Because of the scientific uncertainties associated with the sources and composition of carbonaceous aerosols, projections of future impacts on climate are difficult. However, the increased burning of fossil fuels and the increased burning of biomass for land clearing may result in increased black carbon concentration globally.

Sulfate

The precursor to sulfate is sulfur dioxide gas, which has two primary natural sources: emissions from marine biota and volcanic emissions. During periods of low volcanic activity, the primary source of sulfur dioxide in regions downwind from continents is the combustion of sulfur-rich coals; less is contributed by other fossil fuels. In oceanic regions far removed from continental regions, the biologic source should dominate. However, model analyses, accounting for the ubiquitous presence of ships, indicate that even in these remote regions combustion is a major source of the sulfur dioxide. Some of the sulfur dioxide attaches to sea-salt aerosol where it is oxidized to sulfate. The sea salt has a residence time in the atmosphere on the order of hours to days, and it is transported in the lower troposphere. Most sulfate aerosol is associated with small aerosols (radius <1 μm) and is transported in the upper troposphere with an atmospheric lifetime on the order of one week. Recent "clean coal technologies" and the use of low sulfur fossil fuels have resulted in decreasing sulfate concentrations, especially in North America and regions downwind. Future atmospheric concentrations of sulfate aerosols will be determined by the extent of non-clean coal burning techniques, especially in developing nations.

CLIMATE FORCINGS IN THE INDUSTRIAL ERA

Figure 1 summarizes climate forcings that have been introduced during the period of industrial development, between 1750 and 2000, as estimated by the IPCC. Some of these forcings, mainly greenhouse gases, are known quite accurately, while others are poorly measured. A range of uncertainty has been estimated for each forcing, represented by an uncertainty bar or "whisker." However, these estimates are

partly subjective, and it is possible that the true forcing falls outside the indicated range in some cases.

Greenhouse Gases

Carbon dioxide (CO_2) is probably the most important climate forcing agent today, causing an increased forcing of about 1.4 W/m2. CO_2 climate forcing is likely to become more dominant in the future as fossil fuel use continues. If fossil fuels continue to be used at the current rate, the added CO_2 forcing in 50 years will be about 1 W/m2. If fossil fuel use increases by 1-1.5% per year for 50 years, the added CO_2 forcing instead will be about 2 W/m2. These estimates account for the non-linearity caused by partial saturation in some greenhouse gas infrared absorption bands, yet they are only approximate because of uncertainty about how efficiently the ocean and terrestrial biosphere will sequester atmosphericCO_2. The estimates also presume that during the next 50 years humans will not, on a large scale, capture and sequester the

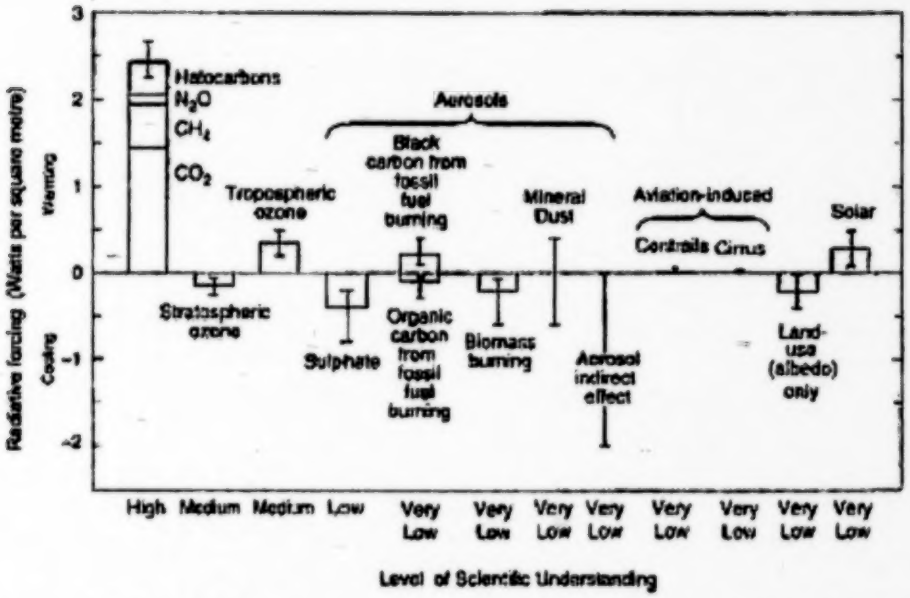

Figure 1 The global mean radiative forcing of the climate system for the year 2000, relative to 1750, and the associated confidence levels with which they are known. (From IPCC, 2001; reprinted with permission of the Intergovernmental Panel on Climate Change.)

CO_2 released during fossil-fuel burning. Other greenhouse gases together cause a climate forcing approximately equal to that of CO_2. Any increase in CH_4 also indirectly causes further climate forcing by increasing stratospheric H_2O (about 7% of the CH_4 is oxidized in the upper atmosphere), as well as by increasing tropospheric O_3 through reactions involving OH and nitrogen oxides. The total climate forcing by CH_4 is at least a third as large as theCO_2 forcing, and it could be half as large as the CO_2 forcing when the indirect effects are included.

Methane is an example of a forcing whose growth could be slowed or even stopped entirely or reversed. The common scenarios for future climate change assume that methane will continue to increase. If instead its amount were to remain constant or decrease, the net climate forcing could be significantly reduced. The growth rate of atmospheric methane

has slowed by more than half in the past two decades for reasons that are not well understood. With a better understanding of the sources and sinks of methane, it may be possible to encourage practices (for example, reduced leakage during fossil-fuel mining and transport, capture of land-fill emissions, and more efficient agricultural practices) that lead to a decrease in atmospheric methane and significantly reduce future climate change. The atmospheric lifetime of methane is of the order of a decade, therefore, unlike CO_2,emission changes will be reflected in changed forcing rather quickly.

Tropospheric ozone (ozone in the lower 5-10 miles of the atmosphere) has been estimated to cause a climate forcing of about 0.4 W/m2. Some of this is linked to methane increases as discussed above, and attribution of the ozone forcing between chemical factors such as methane, carbon monoxide, and other factors is a challenging problem. One recent study, based in part on limited observations of ozone in the late 1800s, suggested that human-made ozone forcing could be as large as about 0.7-0.8 W/m2. Surface level ozone is a major ingredient in air pollution with substantial impacts on human health and agricultural productivity. The potential human and economic gains from reduced ozone pollution and its importance as a climate forcing make it an attractive target for further study as well as possible actions that could lead to reduced ozone amounts or at least a halt in its further growth.

Aerosols

Climate forcing by anthropogenic aerosols is a large source of uncertainty about future climate change. On the basis of estimates of past climate forcings, it seems likely that aerosols, on a global average, have caused a negative climate forcing (cooling) that has tended to offset much of the positive forcing by greenhouse gases. Even though aerosol distributions tend to

be regional in scale, the forced climate response is expected to occur on larger, even hemispheric and global, scales. The monitoring of aerosol properties has not been adequate to yield accurate knowledge of the aerosol climate influence.

Estimates of the current forcing by sulfates fall mainly in the range –0.3 to –1 W/m2. However, the smaller values do not fully account for the fact that sulfate aerosols swell in size substantially in regions of high humidity. Thus, the sulfate forcing probably falls in the range –0.6 to –1 W/m2. Further growth of sulfate aerosols is likely to be limited by concerns about their detrimental effects, especially acid rain, and it is possible that control of sulfur emissions from combustion will even cause the sulfate amount to decrease.

Black carbon (soot) aerosols absorb sunlight and, even though this can cause a local cooling of the surface in regions of heavy aerosol concentration, it warms the atmosphere and, for plausible atmospheric loadings, soot is expected to cause a global surface warming. IPCC reports have provided a best estimate for the soot forcing of 0.1-0.2 W/ m2, but with large uncertainty. One recent study that accounts for the larger absorption that soot can cause when it is mixed internally with other aerosols suggests that its direct forcing is at least 0.4 W/m2. It also has been suggested that the indirect effects of black carbon—which include reducing lowlevel cloud cover (by heating of the layer), making clouds slightly "dirty" (darker), and lowering of the albedo of snow and sea ice—might double this forcing to 0.8 W/m2. The conclusion is that the black carbon aerosol forcing is uncertain but may be substantial. Thus there is the possibility that decreasing black carbon emissions in the future could have a cooling effect that would at least partially compensate for the warming that might be caused by a decrease in sulfates.

Other aerosols are also significant. Organic carbon aerosols are produced naturally by vegetation and anthropogenically in

the burning of fossil fuels and biomass. Organic carbon aerosols thus accompany and tend to be absorbed by soot aerosols, and they are believed to increase the toxicity of the aerosol mixture. It is expected that efforts to reduce emissions of black carbon would also reduce organic carbon emissions. Ammonium nitrate (not included in Figure 1) recently has been estimated to cause a forcing of –0.2 W/m2.

Mineral dust, along with sea salt, sulfates, and organic aerosols, contributes a large fraction of the global aerosol mass. It is likely that human land-use activities have influenced the amount of mineral dust in the air, but trends are not well measured. Except for iron-rich soil, most mineral dust probably has a cooling effect, but this has not been determined well.

The greatest uncertainty about the aerosol climate forcing —indeed, the largest of all the uncertainties about global climate forcings—is probably the indirect effect of aerosols on clouds. Aerosols serve as condensation nuclei for cloud droplets. Thus, anthropogenic aerosols are believed to have two major effects on cloud properties: the increased number of nuclei results in a larger number of smaller cloud droplets, thus increasing the cloud brightness (the Twomey effect), and the smaller droplets tends to inhibit rainfall, thus increasing cloud lifetime and the average cloud cover on Earth. Both effects reduce the amount of sunlight absorbed by Earth and thus tend to cause global cooling. The existence of these effects has been verified in field studies, but it is extremely difficult to determine their global significance. Climate models that incorporate the aerosol-cloud physics suggest that these effects may produce a negative global forcing on the order of 1 W/m2 or larger. The great uncertainty about this indirect aerosol climate forcing presents a severe handicap both for the interpretation of past climate change and for future assessments of climate changes.

Other Forcings

Other potentially important climate forcings include volcanic aerosols, anthropogenic land use, and solar variability. Stratospheric aerosols produced by large volcanoes that eject gas and dust to altitudes of 12 miles or higher can cause a climate forcing as large as several watts per square meter on global average. However, the aerosols fall out after a year or two, so unless there is an unusual series of eruptions, they do not contribute to long-term climate change.

Land-use changes, especially the removal or growth of vegetation, can cause substantial regional climate forcing. One effect that has been evaluated in global climate models is the influence of deforestation. Because forests are dark and tend to mask underlying snow, the replacement of forests by crops or grass yields a higher albedo surface and thus a cooling effect. This effect has been estimated to yield a global cooling tendency in the industrial era equivalent to a forcing of –0.2 W/m2. Land use changes have been an important contributor to past changes of atmospheric carbon dioxide. However, the impacts of such changes on climate may be much more significant on regional scales than globally, and largely act through changes of the hydrologic cycle. Such impacts are currently poorly characterized because they depend on complex modeling details that are still actively being improved.

Solar irradiance, the amount of solar energy striking Earth, has been monitored accurately only since the late 1970s. However, indirect measures of solar activity suggest that there has been a positive trend of solar irradiance over the industrial era, providing a forcing estimated at about 0.3 W/m2. Numerous possible indirect forcings associated with solar variability have been suggested. However, only one of these, ozone changes induced by solar ultraviolet irradiance variations, has convincing observational support. Some studies

have estimated this indirect effect to enhance the direct solar forcing by 0.1 W/m2, but this value remains highly uncertain. Although the net solar forcing appears small in comparison with the sum of all greenhouse gases, it is perhaps more appropriate to compare the solar forcing with the net anthropogenic forcing. Solar forcing is very uncertain, but almost certainly much smaller than the greenhouse gas forcing. It is not implausible that solar irradiance has been a significant driver of climate during part of the industrial era, as suggested by several modeling studies. However, solar forcing has been measured to be very small since 1980, and greenhouse gas forcing has certainly been much larger in the past two decades. In any case, future changes in solar irradiance and greenhouse gases require careful monitoring to evaluate their future balance. In the future, if greenhouse gases continue to increase rapidly while aerosol forcing moderates, solar forcing may be relatively less important. Even in that case, however, the difference between an increasing and decreasing irradiance could be significant and affect interpretation of climate change, so it is important that solar variations be accurately monitored.

4

Climate System Models

Climate system models are an important tool for interpreting observations and assessing hypothetical futures. They are mathematical computer-based expressions of the thermodynamics, fluid motions, chemical reactions, and radiative transfer of Earth climate that are as comprehensive as allowed by computational feasibility and by scientific understanding of their formulation. Their purpose is to calculate the evolving state of the global atmosphere, ocean, land surface, and sea ice in response to external forcings of both natural causes (such as solar and volcanic) and human causes (such as emissions and land uses), given geography and initial material compositions. Such models have been in use for several decades. They are continually improved to increase their comprehensiveness with respect to spatial resolution, temporal duration, biogeochemical complexity, and representation of important effects of processes that cannot practically be calculated on the global scale (such as clouds and turbulent mixing). Formulating, constructing, and using such models and analyzing, assessing, and interpreting their answers make climate system models large and expensive enterprises. For this reason, they are often associated, at least in part, with national laboratories. The rapid increase over recent decades in available computational speed and power offers opportunities for more elaborate, more realistic models, but requires regular upgrading of the basic computers to avoid obsolescence.

Climate models calculate outcomes after taking into account the great number of climate variables and the complex interactions inherent in the climate system. Their purpose is the creation of a synthetic reality that can be compared with the observed reality, subject to appropriate averaging of the

measurements. Thus, such models can be evaluated through comparison with observations, provided that suitable observations exist. Furthermore, model solutions can be diagnosed to assess contributing causes of particular phenomena. Because climate is uncontrollable (albeit influenceable by humans), the models are the only available experimental laboratory for climate. They also are the appropriate high-end tool for forecasting hypothetical climates in the years and centuries ahead. However, climate models are imperfect. Their simulation skill is limited by uncertainties in their formulation, the limited size of their calculations, and the difficulty of interpreting their answers that exhibit almost as much complexity as in nature.

The current norm for a climate system model is to include a full suite of physical representations for air, water, land, and ice with a geographic resolution scale of typically about 250 km. Model solutions match the primary planetary-scale circulation, seasonal variability, and temperature structures with qualitative validity but still some remaining discrepancies. They show forced responses of the global-mean temperature that corresponds roughly with its measured history over the past century, though this requires model adjustments. They achieve a stable equilibrium over millennial intervals with free exchanges of heat, water, and stress across the land and water surfaces. They also exhibit plausible analogues for the dominant modes of intrinsic variability, such as the El Niño/Southern Oscillation (ENSO), although some important discrepancies still remain. At present, climate system models specify solar luminosity, atmospheric composition, and other agents of radiative forcing. A frontier for climate models is the incorporation of more complete biogeochemical cycles (for example, for carbon dioxide). The greater the sophistication and complexity of an atmospheric model, the greater the need for detailed multiple measurements, which test whether the

model continues to mimic observational reality. Applications of climate models to past climate states encompass "snapshots" during particular millennia, but they do not yet provide for continuous evolution over longer intervals (transitions between ice ages).

5

Observed Climate Change During the Industrial Era

Is climate change occurring? If so, how?

Are the changes due to human activities?

THE OCCURRENCE OF CLIMATE CHANGE

A diverse array of evidence points to a warming of global surface air temperatures. Instrumental records from land stations and ships indicate that global mean surface air temperature warmed by about 0.4-0.8°C (0.7-1.5°F) during the 20th century. The warming trend is spatially widespread and is consistent with the global retreat of mountain glaciers, reduction in snow-cover extent, the earlier spring melting of ice on rivers and lakes, the accelerated rate of rise of sea level during the 20th century relative to the past few thousand years, and the increase in upper-air water vapor and rainfall rates over most regions. A lengthening of the growing season also has been documented in many areas, along with an earlier plant flowering season and earlier arrival and breeding of migratory birds. Some species of plants, insects, birds, and fish have shifted towards higher latitudes and higher elevations. The ocean, which represents the largest reservoir of heat in the

climate system, has warmed by about 0.05°C (0.09°F) averaged over the layer extending from the surface down to 10,000 feet, since the 1950s.

Pronounced changes have occurred over high latitudes of the Northern Hemisphere. Analysis of recently declassified data from U.S. and Russian submarines indicates that sea ice in the central Arctic has thinned since the 1970s. Satellite data also indicate a 10-15% decrease in summer sea ice concentration over the Arctic as a whole, which is primarily due to the retreat of the ice over the Siberian sector. A decline of about 10% in spring and summer continental snow cover extent over the past few decades also has been observed. Some of these high latitude changes are believed to be as much or more a reflection of changes in wintertime wind patterns as a direct consequence of global warming per se. The rate of warming has not been uniform over the 20th century. Most of it occurred prior to 1940 and during the past few decades. The Northern Hemisphere as a whole experienced a slight cooling from 1946-75, and the cooling during that period was quite marked over the eastern United States. The cause of this hiatus in the warming is still under debate. The hiatus is evident in averages over both Northern and Southern Hemispheres, but it is more pronounced in the Northern Hemisphere. One possible cause of this feature is the buildup of sulfate aerosols due to the widespread burning of high sulfur coal during the middle of the century, followed by a decline indicated by surface sulfate deposition measurements. It is also possible that at least part of the rapid warming of the Northern Hemisphere during the first part of the 20th century and the subsequent cooling were of natural origin—a remote response to changes in the oceanic circulation at subarctic latitudes in the Atlantic sector, as evidenced by the large local temperature trends over this region. Suggestions that either variations in solar luminosity or the frequency of major volcanic emissions could have

contributed to the irregular rate of warming during the 20th century cannot be excluded.

The IPCC report compares the warming of global mean temperature during the 20th century with the amplitude of climate variations over longer time intervals, making use of recent analyses of tree ring measurements from many different sites, data from the Greenland ice cores, and bore hole temperature measurements. On the basis of these analyses, they conclude that the 0.6°C (1.1°F) warming of the Northern Hemisphere during the 20th century is likely to have been the largest of any century in the past thousand years. This result is based on several analyses using a variety of proxy indicators, some with annual resolution and others with less resolved time resolution. The data become relatively sparse prior to 1600, and are subject to uncertainties related to spatial completeness and interpretation making the results somewhat equivocal, e.g., less than 90% confidence. Achieving greater certainty as to the magnitude of climate variations before that time will require more extensive data and analysis.

Although warming at Earth's surface has been quite pronounced during the past few decades, satellite measurements beginning in 1979 indicate relatively little warming of air temperature in the troposphere. The committee concurs with the findings of a recent National Research Council report,[1] which concluded that the observed difference between surface and tropospheric temperature trends during the past 20 years is probably real, as well as its cautionary statement to the effect that temperature trends based on such short periods of record, with arbitrary start and end points, are not necessarily indicative of the long-term behavior of the climate system. The finding that surface and troposphere temperature trends have been as different as observed over intervals as long as a decade

[1] *Reconciling Observations of Global Temperature Change*, 2000.

or two is difficult to reconcile with our current understanding of the processes that control the vertical distribution of temperature in the atmosphere.

THE EFFECT OF HUMAN ACTIVITIES

Because of the large and still uncertain level of natural variability inherent in the climate record and the uncertainties in the time histories of the various forcing agents (and particularly aerosols), a causal linkage between the buildup of greenhouse gases in the atmosphere and the observed climate changes during the 20th century cannot be unequivocally established. The fact that the magnitude of the observed warming is large in comparison to natural variability as simulated in climate models is suggestive of such a linkage, but it does not constitute proof of one because the model simulations could be deficient in natural variability on the decadal to century time scale. The warming that has been estimated to have occurred in response to the buildup of greenhouse gases in the atmosphere is somewhat greater than the observed warming. At least some of this excess warming has been offset by the cooling effect of sulfate aerosols, and in any case one should not necessarily expect an exact correspondence because of the presence of natural variability.

The cooling trend in the stratosphere, evident in radiosonde data since the 1960s and confirmed by satellite observations starting in 1979, is so pronounced as to be difficult to explain on the basis of natural variability alone. This trend is believed to be partially a result of stratospheric ozone depletion and partially a result of the buildup of greenhouse gases, which warm the atmosphere at low levels but cool it at high levels. The circulation of the stratosphere has responded to the radiatively induced temperature changes in such a way as to concentrate the effects in high latitudes of the winter

hemisphere, where cooling of up to 5°C (9°F) has been observed.

There have been significant changes in the atmospheric circulation during the past several decades: e.g., the transition in climate over the Pacific sector around 1976 that was analogous in some respects to a transition toward more "El Niño-like" conditions over much of the Pacific, and the more gradual strengthening of the wintertime westerlies over subpolar latitudes of both Northern and Southern Hemispheres. Such features bear watching, lest they be early indications of changes in the natural modes of atmospheric variability triggered by human induced climate change. To place them in context, however, it is worth keeping in mind that there were events of comparable significance earlier in the record, such as the 1930s dust bowl.

6

Future Climate Change

How much of the expected climate change is the consequence of climate feedback processes (e.g., water vapor, clouds, snow packs)?

By how much will temperatures change over the next 100 years and where?

What will be the consequences (e.g., extreme weather, health effects) of increases of various magnitude?

Has science determined whether there is a "safe" level of concentration of greenhouse gases?

ESTIMATING FUTURE CLIMATE CHANGE

Projecting future climate change first requires projecting the fossil-fuel and land-use sources of CO_2 and other gases and aerosols. How much of the carbon from future use of fossil fuels will be seen as increases in carbon dioxide in the atmosphere will depend on what fractions are taken up by land and the oceans. The exchanges with land occur on various time scales, out to centuries for soil decomposition in high latitudes, and they are sensitive to climate change. Their projection into the future is highly problematic.

Future climate change depends on the assumed scenario for future climate forcings, as well as upon climate sensitivity. The IPCC scenarios include a broad range of forcings. One scenario often used for climate model studies employs rapid growth rates such that annual greenhouse gas emissions continue to accelerate. This is a useful scenario, in part because it yields a reasonably large "signal/noise" in studies of the simulated climate response. More important, it provides a warning of the magnitude of climate change that may be possible if annual greenhouse gas emissions continue to increase. There are sufficient fossil fuels in the ground to supply such a scenario for well over a century.

IPCC scenarios cover a broad range of assumptions about future economic and technological development, including some that allow greenhouse gas emission reductions. However, there are large uncertainties in underlying assumptions about population growth, economic development, life style choices, technological change, and energy alternatives, so that it is useful to examine scenarios developed from multiple perspectives in considering strategies for dealing with climate

change. For example, one proposed growth scenario[1] for the next 50 years notes that CO_2 emissions have grown by about 1% annually in the past 20 years and assumes a zero growth rate for CO_2 emissions until 2050 (that is, constant emissions). The scenario also focuses on forcings from non-CO_2 greenhouse gases such as methane, and assumes a zero growth rate for them (that is, atmospheric amounts in 2050 similar to those in 2000). Plausible assumptions for technological progress and human factors were proposed to achieve this trajectory for radiative forcing. This scenario leads to a predicted temperature increase of 0.75°C by 2050, approximately half of that resulting from more conventional assumptions. One rationale for focusing first on 2050 rather than 2100 is that it is more difficult to foresee the technological capabilities that may allow reduction of greenhouse gas emissions by 2100.

Scenarios for future greenhouse gas amounts, especially for CO_2 and CH_4, are a major source of uncertainty for projections of future climate. Successive IPCC assessments over the past decade each have developed a new set of scenarios with little discussion of how well observed trends match with previous scenarios. The period of record is now long enough to make it useful to compare recent trends with the scenarios, and such studies will become all the more fruitful as years pass. The increase of global fossil fuel CO_2 emissions in the past decade, averaging 0.6% per year, has fallen below the IPCC scenarios. The growth of atmospheric CH_4 has fallen well below the IPCC scenarios. These slowdowns in growth rates could be short-term fluctuations that may be reversed. However, they

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[1] Hansen, J., M. Sato, R. Ruedy, A. Lacis, and V. Oinas, Global warming in the twenty-first century: an alternative scenario, *Proceedings of the National*
Academy of Sciences, 97: 9875-9880, 2000.

emphasize the need to understand better the factors that influence current and future growth rates.

Global warming will not be spatially uniform, and it is expected to be accompanied by other climate changes. In areas and seasons in which there are large temperature changes, feedbacks may be much larger than their global values. An example of such regionally large effects is the ice-albedo feedback. Reduced snow cover and sea and lake ice will be important at high latitudes and higher elevations, especially during winter and spring. In the presence of the higher temperatures, atmospheric water vapor concentration and precipitation will also be higher. Determining the net ice-albedo feedback effect is complicated by its connections to other aspects of the hydrologic and energy cycles. Clouds may change to amplify or reduce its effect. Increased precipitation with warming at the margin of ice and snow may act to either reduce or amplify this effect, e.g., reducing the effect by increasing snow levels where it is below freezing. Changing vegetation cover likewise can introduce major modification.

An increase in the recycling rate of water in the hydrologic cycle is anticipated in response to higher global average temperatures. Higher evaporation rates will accelerate the drying of soils following rain events, thereby resulting in drier average conditions in some regions, especially during periods of dry weather during the warm season. The drier soils, with less water available for evapotranspiration, will warm more strongly during sunlight hours resulting in higher afternoon temperatures, faster evaporation, and an increase in the diurnal temperature range. The effect is likely to be greatest in semi-arid regions, such as the U.S. Great Plains. The faster recycling of water will lead to higher rainfall rates and an increase in the frequency of heavy precipitation events.

There is a possibility that global warming could change the behavior of one or more of the atmosphere's natural modes of

variability such as ENSO or the so-called North Atlantic or Arctic Oscillation. Such changes could lead to complex changes in the present-day patterns of temperature and precipitation, including changes in the frequency of winter or tropical storms. Higher precipitation rates would favor increased intensity of tropical cyclones, which derive their energy from the heat that is released when water vapor condenses.

Temperatures are expected to increase more rapidly over land compared to oceans because of the ocean's higher heat capacity and because it can transfer more of the trapped heat to the atmosphere by evaporation. Over land, the warming has been—and is expected to continue to be—larger during nighttime than during daytime.

Consequences of Increased Climate Change of Various Magnitudes

The U.S. National Assessment of Climate Change Impacts, augmented by a recent NRC report on climate and health, provides a basis for summarizing the potential consequences of climate change.[2] The National Assessment directly addresses the importance of climate change of various magnitudes by considering climate scenarios from two wellregarded models (the Hadley model of the United Kingdom and the Canadian Climate Model). These two models have very different globally-averaged temperature increases (2.7 and 4.4°C (4.9 and 7.9°F), respectively) by the year 2100. A key conclusion from the National Assessment is that U.S. society is likely to be

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[2] Except where noted, this section is based on information provided in the U.S. National Assessment. U.S. Global Change Research Program, "Climate Change Impacts on the United States: The Potential Consequences of Climate Variability and Change", 2001, Cambridge University Press, 612 pp.

able to adapt to most of the climate change impacts on human systems, but these adaptations may come with substantial cost. The primary conclusions from these reports are summarized for agriculture and forestry, water, human health, and coastal regions.

In the near term, agriculture and forestry are likely to benefit from CO_2 fertilization effects and the increased water efficiency of many plants at higher atmospheric CO_2 concentrations. Many crop distributions will change, thus requiring significant regional adaptations. Given their resource base, the Assessment concludes that such changes will be costlier for small farmers than for large corporate farms. However, the combination of the geographic and climatic breadth of the United States, possibly augmented by advances in genetics, increases the nation's robustness to climate change. These conclusions depend on the climate scenario, with hotter and drier conditions increasing the potential for declines in both agriculture and forestry. In addition, the response of insects and plant diseases to warming is poorly understood. On the regional scale and in the longer term, there is much more uncertainty.

Increased tendency toward drought, as projected by some models, is an important concern in every region of the United States even though it is unlikely to be realized everywhere in the nation. Decreased snow pack and/or earlier season melting are expected in response to warming because the freeze line will be moving to higher elevations. The western part of the nation is highly dependent on the amount of snow pack and the timing of the runoff. The noted increased rainfall rates have implications for pollution run-off, flood control, and changes to plant and animal habitat. Any significant climate change is likely to result in increased costs because the nation's investment in water supply infrastructure is largely tuned to the current climate.

Health outcomes in response to climate change are the

subject of intense debate. Climate change has the potential to influence the frequency and transmission of infectious disease, alter heat- and cold-related mortality and morbidity, and influence air and water quality. Climate change is just one of the factors that influence the frequency and transmission of infectious disease, and hence the assessments view such changes as highly uncertain.[3] This said, changes in the agents that transport infectious diseases (e.g., mosquitoes, ticks, rodents) are likely to occur with any significant change in precipitation and temperature. Increases in mean temperatures are expected to result in new record high temperatures and warm nights and an increase in the number of warm days compared to the present. Cold-related stress is likely to decline whereas heat stress in major urban areas is projected to increase if no adaptation occurs. The National Assessment ties increases in adverse air quality to higher temperatures and other air mass characteristics. However, much of the United States appears to be protected against many different adverse health outcomes related to climate change by a strong public health system, relatively high levels of public awareness, and a high standard of living. Children, the elderly, and the poor are considered to be the most vulnerable to adverse health outcomes. The understanding of the relationships between weather/climate and human health is in its infancy and therefore the health consequences of climate change are poorly understood. The costs, benefits, and availability of resources for adaptation are also uncertain.

Fifty-three percent of the U.S. population lives within the coastal regions, along with billions of dollars in associated infrastructure. Because of this, coastal areas are more vulnerable to increases in severe weather and sea level rise. Changes in storm frequency and intensity are one of the more

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[3] *Under the Weather: Climate, Ecosystems, and Infectious Disease*, 2001.

uncertain elements of future climate change prediction. However, sea level rise increases the potential damage to coastal regions even under conditions of current storm intensities and can endanger coastal ecosystems if human systems or other barriers limit the opportunities for migration.

In contrast to human systems, the U.S. National Assessment makes a strong case that ecosystems are the most vulnerable to the projected rate and magnitude of climate change, in part because the available adaptation options are very limited. Significant climate change will cause disruptions to many U.S. ecosystems, including wetlands, forests, grasslands, rivers, and lakes. Ecosystems have inherent value, and also supply the country with a wide variety of ecosystem services.

The impacts of these climate changes will be significant, but their nature and intensity will depend strongly on the region and timing of occurrence. At a national level, the direct economic impacts are likely to be modest. However, on a regional basis the level and extent of both beneficial and harmful impacts will grow. Some economic sectors may be transformed substantially and there may be significant regional transitions associated with shifts in agriculture and forestry. Increasingly, climate change impacts will have to be placed in the context of other stresses associated with land use and a wide variety of pollutants. The possibility of abrupt or unexpected changes could pose greater challenges for adaptation.

Even the mid-range scenarios considered in the IPCC result in temperatures that continue to increase well beyond the end of this century, suggesting that assessments that examine only the next 100 years may well underestimate the magnitude of the eventual impacts. For example a sustained and progressive drying of the land surface, if it occurred, would eventually lead to desertification of regions that are now marginally arable, and any substantial melting or breaking up of the Greenland and

Antarctic ice caps could cause widespread coastal inundation.[4]

"Safe" Level of Concentration of Greenhouse Gases

The potential for significant climate-induced impacts raises the question of whether there exists a "safe" level of greenhouse gas concentration. The word "safe" is ambiguous because it depends on both viewpoint and value judgment. This view changes dramatically if you are part of an Eskimo community dependent on sea ice for hunting, or an inhabitant of a coastal city, or a farm community. It depends on whether an industry is robust or sensitive to climate change. The viewpoint changes distinctly between countries with sufficient resources for adaptation and poorer nations. Value judgments become particularly important when assessing the potential impacts on natural ecosystems. The question can be approached from two perspectives. The first issue is whether there is a threshold in the concentration of greenhouse gases that, if exceeded, would cause dramatic or catastrophic changes to the Earth system. The second issue is whether the consequences of greenhouse warming, as a function of the concentration of greenhouse gases, are sufficiently well known that the scientific community can define "an acceptable concentration" based on an analysis of potential risks and damages. The first issue is best addressed by examining Earth's history. Guidance for the second issue can be derived from assessments of the impacts of climate change.

A variety of measurements demonstrate that CO_2 has varied substantially during Earth's history, reaching levels between

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[4] Appreciable desertification on a regional scale could take place within a decade or two. Many centuries would be required for substantial melting of the ice sheets to occur and the likelihood of a breakup during this century is considered to be remote.

three and nine times pre-industrial levels of carbon dioxide prior to 50 million years ago. During the periods of hypothesized high carbon dioxide concentrations, there are strong indicators of warmth (although many different factors have contributed to climate change during Earth's history). These indicators include warm deep-sea temperatures and abundant life within the Arctic Circle. There are also some records of abrupt warming (thousands of years) in Earth's history that may be related to atmospheric greenhouse concentrations, which caused significant perturbations to the Earth system. The global temperature increases determined for some of these warm periods exceed future projections from all climate models for the next century. These changes are associated with some extinctions, and both the periods of warmth and abrupt transitions are associated with the large-scale redistribution of species. However, a substantial biosphere is evident (i.e., no catastrophic impact tending toward wholesale extinctions) even with substantially higher CO_2 concentrations than those postulated to occur in response to human activities.

The course of future climate change will depend on the nature of the climate forcing (e.g., the rate and magnitude of changes in greenhouse gases, aerosols) and the sensitivity of the climate system. Therefore, determination of an acceptable concentration of greenhouse gases depends on the ability to determine the sensitivity of the climate system as well as knowledge of the full range of the other forcing factors, and an assessment of the risks and vulnerabilities. Climate models reflect a range of climate sensitivities even with the same emission scenario. For example, the consequences of climate change would be quite different for a globallyaveraged warming of 1.1°C (2.0°F) or a 3.1°C (5.6°F) projected for the IPCC scenario in which CO_2 increases by 1% per year leading to a doubling from current levels in the next 70 years.

Both climate change and its consequences also are likely to have a strong regional character. The largest changes occur consistently in the regions of the middle to high latitudes. Whereas all models project global warming and global increases in precipitation, the sign of the precipitation projections varies among models for some regions.

The range of model sensitivities and the challenge of projecting the sign of the precipitation changes for some regions represent a substantial limitation in assessing climate impacts. Therefore, both the IPCC and the U.S. National Assessment of Climate Change Impacts assess potential climate impacts using approaches that are "scenario-driven." In other words, models with a range of climate sensitivities are used to assess the potential impacts on water, agriculture, human health, forestry, and the coastal zones, nationally and region by region. The differences among climate model projections are sufficiently large to limit the ability to define an "acceptable concentration" of atmospheric greenhouse gases. In addition, technological breakthroughs that could improve the capabilities to adapt are not known. Instead, the assessments provide a broader level of guidance:

- The nature of the potential impacts of climate change increases as a function of the sensitivity of the climate model. If globally-averaged temperature increases approach 3°C (5.4°F) in response to doubling of carbon dioxide, they are likely to have substantial impacts on human endeavors and on natural ecosystems.
- Given the fact that middle and high latitude regions appear to be more sensitive to climate change than other regions, significant impacts in these regions are likely to occur at lower levels of global warming.
- There could be significant regional impacts over the full range of IPCC model-based projections.

• Natural ecosystems are less able to adapt to change than are human systems.

In summary, critical factors in defining a "safe" concentration depend on the nature and level of societal vulnerability, the degree of risk aversion, ability and/or costs of adaptation and/or mitigation, and the valuation of ecosystems, as well as on the sensitivity of the Earth system to climate change.

7

Assessing Progress in Climate Science

What are the substantive differences between the IPCC Reports and the Summaries?

What are the specific areas of science that need to be studied further, in order of priority, to advance our understanding of climate change?

The committee was asked to address these two questions. The first involved evaluating the IPCC Working Group I report and summaries in order to identify how the summaries differ from the report. The second question involved characterizing areas of uncertainty in scientific knowledge concerning climate change, and identifying the research areas that will advance the understanding of climate change.

INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE

The full text of the IPCC Third Assessment Report on *The Scientific Basis* represents a valuable effort by U.S. and

international scientists in identifying and assessing much of the extensive research going on in climate science. The body of the WGI report is scientifically credible and is not unlike what would be produced by a comparable group of only U.S. scientists working with a similar set of emission scenarios, with perhaps some normal differences in scientific tone and emphasis.

However, because the IPCC reports are generally invoked as the authoritative basis for policy discussions on climate change, we should critically evaluate this effort so that we can offer suggestions for improvement. The goal is a stronger IPCC that will lead to better definitions of the nature of remaining problems, a clarity in expressing both robust conclusions and uncertainties, and thus aid achievement of the best possible policy decisions. We must also consider options for an improved process, given the enormous and growing investment required by individual scientists to produce this assessment. Three important issues directed to this goal are described below.

The IPCC Summary for Policy Makers

The IPCC WGI *Summary for Policymakers* (SPM) serves an obviously different purpose than the scientific working group reports. When one is condensing 1,000 pages into 20 pages with a different purpose in mind, we would expect the text to contain some modifications. After analysis, the committee finds that the conclusions presented in the SPM and the *Technical Summary* (TS) are consistent with the main body of the report. There are, however, differences. The primary differences reflect the manner in which uncertainties are communicated in the SPM. The SPM frequently uses terms (e.g., likely, very likely, unlikely) that convey levels of uncertainty; however, the text less frequently includes either

their basis or caveats. This difference is perhaps understandable in terms of a process in which the SPM attempts to underline the major areas of concern associated with a human-induced climate change. However, a thorough understanding of the uncertainties is essential to the development of good policy decisions.

Climate projections will always be far from perfect. Confidence limits and probabilistic information, with their basis, should always be considered as an integral part of the information that climate scientists provide to policy and decision makers. Without them, the IPCC SPM could give an impression that the science of global warming is "settled," even though many uncertainties still remain. The emission scenarios used by the IPCC provide a good example. Human decisions will almost certainly alter emissions over the next century. Because we cannot predict either the course of human populations, technology, or societal transitions with any clarity, the actual greenhouse gas emissions could be either greater or less than the IPCC scenarios. Without an understanding of the sources and degree of uncertainty, decision makers could fail to define the best ways to deal with the serious issue of global warming.

Modification of the Scientific Text After Completion of the SPM

The SPM results from a discussion between the lead authors and government representatives (including also some non-governmental organizations and industry representatives). This discussion, combined with the requirement for consistency, results in some modifications of the text, all of which were carefully documented by the IPCC. This process has resulted in some concern that the scientific basis for the SPM might be altered. To assess this potential problem, the committee

solicited written responses from U.S. coordinating lead authors and lead authors of IPCC chapters, reviewed the WGI draft report and summaries, and interviewed Dr. Daniel Albritton who served as a coordinating lead author for the IPCC WGI *Technical Summary*. Based on this analysis, the committee finds that no changes were made without the consent of the convening lead authors and that most changes that did occur lacked significant impact. However, some scientists may find fault with some of the technical details, especially if they appear to underestimate uncertainty. The SPM is accompanied by the more representative *Technical Summary* (TS). The SPM contains cross-references to the full text, which unfortunately is not accessible until a later date, but it does not cross-reference the accompanying TS.

The IPCC as Representative of the Science Community

The IPCC process demands a significant time commitment by members of the scientific community. As a result, many climate scientists in the United States and elsewhere choose not to participate at the level of a lead author even after being invited. Some take on less time-consuming roles as contributing authors or reviewers. Others choose not to participate. This may present a potential problem for the future. As the commitment to the assessment process continues to grow, this could create a form of self-selection for the participants. In such a case, the community of world climate scientists may develop cadres with particularly strong feelings about the outcome: some as favorable to the IPCC and its procedures and others negative about the use of the IPCC as a policy instrument. Alternative procedures are needed to ensure that participation in the work of the IPCC does not come at the expense of an individual's scientific career.

In addition, the preparation of the SPM involves both

scientists and governmental representatives. Governmental representatives are more likely to be tied to specific government postures with regard to treaties, emission controls, and other policy instruments. If scientific participation in the future becomes less representative and governmental representatives are tied to specific postures, then there is a risk that future IPCC efforts will not be viewed as independent processes.

The United States should promote actions that improve the IPCC process while also ensuring that its strengths are maintained. The most valuable contribution U.S. scientists can make is to continually question basic assumptions and conclusions, promote clear and careful appraisal and presentation of the uncertainties about climate change as well as those areas in which science is leading to robust conclusions, and work toward a significant improvement in the ability to project the future. In the process, we will better define the nature of the problems and ensure that the best possible information is available for policy makers.

RESEARCH PRIORITIES

The underlying scientific issues that have been discussed in this report and the research priorities that they define have evolved over time. For this reason, many have been identified previously in NRC reports.[1]

Predictions of global climate change will require major advances in understanding and modeling of (1) the factors that

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[1] *Decade-to-Century-Scale Climate Variability and Change: A Science Strategy*, 1998; *The Atmospheric Sciences Entering the Twenty-First Century*, 1998; *Adequacy of Climate Observing Systems*, 1999; *Global Environmental Change: Research Pathways for the Next Decade*, 1999; *Improving the Effectiveness of U.S. Climate Modeling*, 2001; *The Science of Regional and Global Change: Putting Knowledge to Work*, 2001.

determine atmospheric concentrations of greenhouse gases and aerosols and (2) the so called "feedbacks" that determine the sensitivity of the climate system to a prescribed increase in greenhouse gases. Specifically, this will involve reducing uncertainty regarding: (a) future usage of fossil fuels, (b) future emissions of methane, (c) the fraction of the future fossil fuel carbon that will remain in the atmosphere and provide radiative forcing versus exchange with the oceans or net exchange with the land biosphere, (d) the feedbacks in the climate system that determine both the magnitude of the change and the rate of energy uptake by the oceans, which together determine the magnitude and time history of the temperature increases for a given radiative forcing, (e) the details of the regional and local climate change consequent to an overall level of global climate change, (f) the nature and causes of the natural variability of climate and its interactions with forced changes, and (g) the direct and indirect effects of the changing distributions of aerosol. Because the total change in radiative forcing from other greenhouse gases over the last century has been nearly as large as that of carbon dioxide, their future evolution also must be addressed. At the heart of this is basic research, which allows for creative discoveries about those elements of the climate system that have not yet been identified, or studied.

Knowledge of the climate system and projections about the future climate are derived from fundamental physics and chemistry through models and observations of the atmosphere and the climate system. Climate models are built using the best scientific knowledge of the processes that operate within the climate system, which in turn are based on observations of these systems. A major limitation of these model forecasts for use around the world is the paucity of data available to evaluate the ability of coupled models to simulate important aspects of past climate. In addition, the observing system available today is a composite of observations that neither provide the

information nor the continuity in the data needed to support measurements of climate variables. Therefore, above all, it is essential to ensure the existence of a long-term observing system that provides a more definitive observational foundation to evaluate decadal- to century-scale variability and change. This observing system must include observations of key state variables such as temperature, precipitation, humidity, pressure, clouds, sea ice and snow cover, sea level, sea-surface temperature, carbon fluxes and soil moisture. Additionally, more comprehensive regional measurements of greenhouse gases would provide critical information about their local and regional source strengths.

Climate observations and modeling are becoming increasingly important for a wide segment of society including water resource managers, public health officials, agribusinesses, energy providers, forest managers, insurance companies, and city planners. In order to address the consequences of climate change and better serve the nation's decision makers, the research enterprise dealing with environmental change and environment-society interactions must be enhanced. This includes support of (a) interdisciplinary research that couples physical, chemical, biological, and human systems, (b) improved capability of integrate scientific knowledge, including its uncertainty, into effective decision support systems, and (c) an ability to conduct research at the regional or sectoral level that promotes analysis of the response of human and natural systems to multiple stresses.

Climate research is presently overseen by the U.S. Global Change Research Program (USGCRP). A number of NRC reports[2] have concluded that this collection of agencies is

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[2] *Global Environmental Change: Research Pathways for the Next Decade*, 1999; *Improving the Effectiveness of U.S. Climate Modeling*, 2001; *The Science of Regional and Global Change: Putting Knowledge to Work*, (continued...)

hampered organizationally in its ability to address the major climate problems. The ability of the United States to assess future climate change is severely limited by the lack of a climate observing system, by inadequate computational resources, and by the general inability of government to focus resources on climate problems. Efforts are needed to ensure that U.S. efforts in climate research are supported and managed to ensure innovation, effectiveness, and efficiency. These issues have been addressed by NRC reports, but more examination is needed.

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[2] (...continued)
2001.

Appendixes
A
Letter from the White House

THE WHITE HOUSE
WASHINGTON

May 11, 2001

Dr. Bruce Alberts
National Academy of Sciences
2101 Constitution Avenue, NW
Washington, D.C. 20418

Dear Dr. Alberts:

The Administration is conducting a review of U.S. policy on climate change. We seek the Academy's assistance in identifying the areas in the science of climate change where there are the greatest certainties and uncertainties.

We would like your views on whether there are any substantive differences between the IPCC Reports and the IPCC summaries.

We would appreciate a response as soon as possible.

Sincerely yours,

/s/ John M. Bridgeland
Deputy Assistant to the President for Domestic Policy and Director, Domestic Policy Council

/s/ Gary Edson
Deputy Assistant to the President for International Economic Affairs

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Biographical Sketches of Committee Members and Staff

Dr. Ralph J. Cicerone *(Chair)* is the chancellor of the University of California at Irvine and the Daniel G. Aldrich Professor in the Department of Earth System Science and the Department of Chemistry. His areas of research include atmospheric chemistry; sources of gases that affect climate and the composition of the global atmosphere, especially methane and nitrous oxide; and the ozone layer and human influence on it. He is a member of the National Academy of Sciences. Dr. Cicerone received his Ph.D. from the University of Illinois.

Dr. Eric J. Barron is Director of the Earth and Mineral Sciences Environment Institute and Distinguished Professor of Geosciences at Pennsylvania State University. His specialty is paleoclimatology/paleoceanography. His research emphasizes global change, specifically numerical models of the climate system and the study of climate change throughout Earth's history. Dr. Barron is a fellow of the American Geophysical Union and the American Meteorological Society. He has served on several National Research Council committees, including, most recently, the Grand Challenges in the Environmental Sciences and the Task Group on Assessment of NASA Plans for Post-2000 Earth Observing Missions. He is currently the chair of the Board on Atmospheric Sciences and Climate. Dr. Barron received his Ph.D. from the University of Miami.

Dr. Robert E. Dickinson is a professor of dynamics and climate in the School of Earth and Atmospheric Sciences at the Georgia Institute of Technology. His research interests include the dynamics of atmospheric planetary waves, stratospheric

dynamics, models of global structure and dynamics of terrestrial and planetary thermosphere, NLTE infrared radiative transfer in planetary mesopheres, global climate modeling and processes, the role of land processes in climate systems, the modeling role of vegetation in regional evapotranspiration, and the role of tropical forests in climate systems. Dr. Dickinson is a member of the National Academy of Sciences and the recipient of the Revelle medal of the American Geophysical Union (AGU) and the Rossby award of the American Meteorological Society. He is currently president-elect of the AGU. Dr. Dickinson received his Ph.D. from the Massachusetts Institute of Technology.

Dr. Inez Y. Fung is the Richard and Rhoda Goldman Distinguished Professor for the Physical Sciences, Director of the Center for Atmospheric Sciences, and a professor in the Department of Earth and Planetary Science and the Department of Environmental Sciences, Policy and Management at the University of California at Berkeley. Her research expertise is in large-scale numerical modeling of biogeochemical cycles and their interaction with climate. Her research also includes climate change, remote sensing of earth systems, investigations of atmosphere-ocean interactions, and atmosphere-biosphere interactions. She is a member of the National Academy of Sciences, a fellow of the American Geophysical Union and the American Meteorological Society, and a recipient of NASA's Exceptional Scientific Achievement Medal. Dr. Fung received her Sc.D. from the Massachusetts Institute of Technology.

Dr. James E. Hansen is head of the NASA Goddard Institute for Space Studies. His research interests include radiative transfer in planetary atmospheres, interpretation of remote sounding of planetary atmospheres, development of simplified climate models and three-dimensional global climate models,

current climate trends from observational data, and projections of man's impact on climate. He is a member of the National Academy of Sciences and a fellow of the American Geophysical Union. Dr. Hansen received his Ph.D. from the University of Iowa.

Mr. Thomas R. Karl is Director of the National Climatic Data Center of the National Oceanic and Atmospheric Administration. Before this he served as the senior scientist where his research interests included global climate change, extreme weather events, and trends in global and U.S. climate over the past 100 years. Mr. Karl is a fellow of the American Meteorological Society and the American Geophysical Union and served as the chair of the National Research Council's Climate Research Committee. He was a coordinating lead author for the IPCC Working Group I Third Assessment Report. Mr. Karl received his M.S. from the University of Wisconsin.

Dr. Richard S. Lindzen is the Alfred P. Sloan Professor of Meteorology in the Department of Earth, Atmospheric and Planetary Sciences at the Massachusetts Institute of Technology. His research interests include dynamic meteorology and climatology, specifically upper atmosphere dynamics, waves and instability, climate sensitivity, regional and interannual variability of weather, tropical meteorology, monsoons, mesoscale systems, clear air turbulence, climate dynamics, and general circulation. He is a member of the National Academy of Sciences and a fellow of the American Association for the Advancement of Science. He was a lead author for the IPCC Working Group I Third Assessment Report. Dr. Lindzen received his Ph.D. from Harvard University.

Dr. James C. McWilliams is the Slichter Professor of Earth Sciences in the Department of Atmospheric Sciences and the Institute for Geophysics and Planetary Physics at the University of California at Los Angeles. His research focuses on the fluid dynamics of Earth's oceans and atmosphere, both their theory and computational modeling. Particular subjects of interest include the maintenance of general circulations; climate dynamics; geostrophically and cyclo-strophically balanced dynamics in rotating, stratified fluids; vortex dynamics; the planetary boundary layers; planetary- scale thermohaline convection, the roles of coherent structures of turbulent flows in geophysical and astrophysical regimes; numerical methods; coastal ocean modeling and statistical estimation theory. He is a fellow of the American Geophysical Union and has served on the National Research Council's Climate Research Committee and Board on Atmospheric and Sciences. Dr. McWilliams received his Ph.D. from Harvard University.

Dr. F. Sherwood Rowland is the Donald Bren Research Professor of Chemistry and Earth System Science at the University of California at Irvine. His research interests include atmospheric chemistry (stratospheric ozone, trace compounds in the troposphere on a global basis); chemical kinetics, in particular, gas phase reactions of chlorine, fluorine, and hydrogen; and radiochemistry, specifically tracer studies with radioactive isotopes. Dr. Rowland is a member of the National Academy of Sciences where he currently serves as Foreign Secretary. He is also a member of the Institute of Medicine. He has received numerous awards including the Nobel Prize in Chemistry in 1995 and the Revelle medal of the American Geophysical Union. Dr. Rowland received his Ph.D. from the University of Chicago.

Dr. Edward S. Sarachik is a\professor in the Department of

Atmospheric Sciences and an adjunct professor in the School of Oceanography at the University of Washington. His research interests focus on large-scale atmosphere-ocean interactions, seasonal variations in the tropical oceans, the role of the ocean in climate change, and biogeochemical cycles in the global ocean. Dr. Sarachik is a fellow of the American Geophysical Union, the American Meteorological Society, and the American Association for the Advancement of Science. He has served on numerous National Research Council committees including the Climate Research Committee, the Tropical Ocean/Global Atmosphere (TOGA) Advisory Panel (chair), and the Panel on Improving U.S. Climate Modeling (chair). Dr. Sarachik received his Ph.D. from Brandeis University.

Dr. John M. Wallace is a professor of atmospheric sciences and co-director of the University of Washington Program on the Environment. From 1981-98 he served as director of the (University of Washington/NOAA) Joint Institute for the Study of the Atmosphere and the Ocean. His research specialties include the study of atmospheric general circulation, El Niño, and global climate. He is a member of the National Academy of Sciences; a fellow of the American Association for the Advancement of Science, the American Geophysical Union (AGU), and the American Meteorological Society (AMS); and the recipient of the Rossby medal of the AMS and Revelle medal of the AGU. Dr. Wallace received his Ph.D. from the Massachusetts Institute of Technology.

Dr. Vaughan C. Turekian *(Study Director)* is a Program Officer with the Board on Atmospheric Sciences and Climate. He received his B.S. from Yale University, where he specialized in Geology and Geophysics and International Studies. He received his Ph.D. in Environmental Sciences from the University of Virginia in 2000 where he used stable bulk

and compound-specific isotope analyses to characterize the sources and processing of aerosols in marine air.

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

COMMONWEALTH OF MASSACHUSETTS, et al.,	)
Petitioners,	)
v.	) No. 03-1361
	)Consolidated with
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,	) Nos. 03-1362-1368
Respondent.	)

DECLARATION OF MICHAEL C. MacCRACKEN

I, MICHAEL C. MacCRACKEN, declare as follows:

1. I received my Bachelor's of Science in Mechanical Engineering from Princeton University in 1964. I then received my Master of Science and Ph.D. degrees in Applied Science from the University of California Davis in 1966 and 1968, respectively. I was elected to the Phi Kappa Phi honorary society at both undergraduate and graduate levels. From 1968 to 2002, I was employed as a physicist at the University of California's Lawrence Livermore National Laboratory (LLNL), where I led a number of scientific projects using numerical models to simulate the effects of transport and industrial emissions on air quality and the response of the climate to a range of natural and human-induced perturbations, including the likely impacts of an increase in the concentrations of greenhouse gases such as carbon dioxide. As a result of these projects, I am the co-author/co-editor of eight books, 22 journal

articles, and hundreds of other reports and other notes.

2. From 1993 to 2002, I was on assignment from my permanent position with LLNL to serve as the senior scientist on global change at the Office of the U. S. Global Change Research Program. In this capacity, I served as the first Executive Director of the Office of the U.S. Global Change Research Program ("USGCRP") from 1993-1997. I was responsible for assisting in the coordination of the global change research programs of ten federal agencies, including the Environmental Protection Agency, the Department of Energy, the National Science Foundation, the National Oceanographic and Atmospheric Administration, NASA, and others. In addition, in my role as senior scientist, I was responsible for keeping up with scientific advances in the field for the USGCRP and assisting the Office of Science and Technology Policy (OSTP) of the Executive Office of the President in summarizing the scientific advances for government leaders.

3. Following my tenure as Executive Director of the Office of the USGCRP, I was appointed Executive Director of the National Assessment Coordination Office, and served from 1997 through 2001 in this role. I led a small staff that had responsibility for coordinating the U.S. National Assessment of the Potential Consequences of Climate Variability and Change (U.S. National Assessment), which was carried out under the auspices of the USGCRP. This responsibility included helping to design and support the overall assessment activity, focusing particularly on ensuring the high quality of the scientific aspects. The U. S. National Assessment was carried out at the direction of the Director of OSTP. The National Assessment brought together the efforts of 20 university-based regional teams, 5 joint university-government scientific teams focused on particular sectors of the economy and natural resources, and a federal advisory committee composed of 12 leading scientists

and experts. In addition to participating in and reviewing many of the regional and sectoral activities and reports, I served as an additional lead author and generally contributed to the preparation of the national level reports entitled *Climate Change Impacts on the United States: The Potential Consequences of Climate Variability and Change,* that were published in 2000 and 2001.[1] I was an additional lead author of the National Assessment's Overview Report, and for the National Assessment's Foundation Report I was one of the lead authors of "Chapter 1: Scenarios for Climate Variability and Change" and "Chapter 12: Potential Consequences of Climate Variability and Change for Native Peoples and Homelands." In my role as Executive Director of the National Assessment Coordination Office, I also prepared Chapter 6 of the U.S. Government's *Climate Action Report 2002.*[2] This report was the U.S. Government's quadrennial national communication under the United Nations Framework Convention on Climate Change; Chapter 6, on impacts and adaptation, incorporated the findings of the National Assessment. In 2002-03, I also assisted the Department of Transportation in the conduct of a workshop on the potential impacts of climate change on transportation.

4. I have served in various capacities in the preparation of the First, Second and Third Assessments of the Intergovernmental Panel on Climate Change (IPCC). For the IPCC's First Assessment Report, which was completed in 1990, I was a contributor to Chapter 5 on "Equilibrium Climate

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[1] U.S. Global Change Research Program, *Climate Change Impacts on the United States: The Potential Consequences of Climate Variability and Change: Overview Report* (2000) and *Foundation Report* (2001). Available from Cambridge University Press.

[2] U.S. Dept. of State, *U.S. Climate Action Report 2002* (U.S. Government Printing Office 2002).

Change—and its Implications for the Future" and Chapter 8 on "Detection of the Greenhouse Effect in the Observations." For the Second Assessment, which was completed in 1995, I was a contributor to Chapter 8 of Working Group I, "Detection of Climate Change and Attribution of Causes," and a lead author of Chapter 25 of Working Group II, "Mitigation: Cross-Sectoral and Other Issues." For the Third Assessment that was completed in 2001, I was a contributing author to Chapter 12 of Working Group I, "Detection of Climate Change and Attribution of Causes." I was a reviewer of various chapters for each of these assessment reports and as part of my responsibility for the Office of the U.S. Global Change Research Program, I served as scientific coordinator for the official reviews of the U.S. Government for both the Working Group I and II contributions for the Second and Third IPCC Assessment Reports. I also served as scientific advisor to the U.S. delegation at the plenary meetings of Working Group I for the Second and Third Assessments,[3] contributing to the preparation of the Summary for Policymakers of each assessment. For the IPCC's Fourth Assessment Report to be completed in 2007, I was recently appointed by the leadership of Working Group II to serve as Review Editor for Chapter 14, which will focus on past, ongoing, and future impacts of climate change on North America.

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[3] Held in Madrid, Spain in November 1995 and in Shanghai, China in January 2001. Prior to joining the Office of the USGCRP, I also served as a scientific adviser to the US delegation for consideration of the IPCC Working Group I special report in January 1992 held in Guangzhou, China.

Summary of Opinions

5. The following findings and supporting information are offered as my expert scientific opinion, based on my education, qualifications, experience, and knowledge of the relevant scientific literature. These findings, in my expert opinion, also reflect the strong consensus of opinion among qualified scientific experts involved in climate change research in the U.S. and around the world:

a. The atmospheric concentrations of three important greenhouse gases, namely carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), have been increasing since about 1750 as a result of human activities, principally the combustion of fossil fuel. The higher concentrations of these greenhouse gases enhance the Earth's natural greenhouse effect and exert a warming influence on the Earth's climate. The human-induced increases in the concentrations of CO_2, CH_4, and N_2O are widely considered to be the major factor responsible for the global warming of about 0.6°C (about 1°F) that occurred during the 20th century.

b. The most probable scenarios of future greenhouse gas emissions indicate that, in the absence of policy change, atmospheric concentrations of greenhouse gases will continue to rise steadily throughout this century, very likely exceeding concentrations seen over at least the last 10 million years. As a result, global average surface air temperature, which has already increased by about 0.6°C (about 1°F) over the last century, will also continue rising at rates unprecedented in human history. In its Third Assessment Report, averaging across the results of climate models, the IPCC concluded that global surface air temperature is likely to increase by about 0.2 to 0.5°C (about 0.3 to 0.9°F) per decade. By the end of the century, global average surface air temperature is projected to

increase by about 2 to 4.5°C over 1990 levels.

c. Important environmental impacts of global warming that have occurred to date include: (i) the warming of the oceans and the increased melting of many mountain glaciers around the world that were the major contributions to the rise in global sea level by 10-20 cm (4 to 8 inches) observed over the past century; (ii) the lengthening of the growing season in mid- and high-latitudes that has contributed to poleward and altitudinal shifts of plant and animal ranges and the declines of some plant and animal populations; and (iii) the thawing of permafrost, and the later freezing and earlier break-up of ice on rivers and lakes.[4]

d. The environmental impacts of projected global warming will include: (i) an increase in sea level at an average rate of about 0.5 to 3.5 inches per decade, reaching 4-35 inches by the end of the century (with the most likely value being, in my expert opinion, near or above the middle of this range); (ii) severe and irreversible changes to important natural ecosystems (e.g., coral reefs, Arctic coastal environments) and geographic features (e.g., forest boundaries, glaciers and ice sheets); and (iii) significant reduction of water storage in winter snowpack in mountainous regions with direct and important economic consequences;

e. Achievable reductions in emissions of CO_2 and other greenhouse gases from U.S. motor vehicles would significantly reduce the build-up in atmospheric concentrations of these gases and delay and moderate many

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[4] Some text is drawn from the IPCC's Third Assessment Report *Climate Change 2001: Impacts, Adaptation and Vulnerability*; Cambridge University Press, page 3.

of the adverse impacts of global warming.

The scientific basis for each of these findings is explained in more detail below.

Current State of Scientific Authority on Climate Change

6. Collective scientific understanding of climate change is best represented in major assessment reports that assemble, evaluate and critically summarize the results of thousands of scientific papers and studies that have been written about the many aspects of the climate change issue. These carefully peer reviewed assessment reports present the most authoritative consensus available of the scientific understanding of the effects of human activities on climate, as well as of the potential impacts of climate change on the world and the U.S.

7. In the late 1980s, the international community formed the Intergovernmental Panel on Climate Change (IPCC), which produced a series of major assessments of climate change in 1990, 1995 and 2001.[5] The national academies of science of

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[5] The IPCC's First Assessment Report series in 1990 consisted of the following reports: *Scientific Assessment of Climate Change — Report of Working Group I* (Cambridge University Press, UK); *Impacts Assessment of Climate Change — Report of Working Group II* (Australian Government Publishing Service Marketing Section); and *The IPCC Response Strategies — Report of Working Group III* (Island Press, USA). The IPCC's Second Assessment Report Series in 1995 consisted of the following: *Climate Change 1995: The Science of Climate Change*; *Climate Change 1995: Impacts, Adaptations and Mitigation of Climate Change: Scientific-Technical Analyses*; and *Climate Change 1995: Economic and Social Dimensions of Climate Change* (all available from Cambridge University Press). The IPCC's Third Assessment Report series in 2001 consisted of the following: *Climate Change 2001: Synthesis Report; Climate Change 2001: The Scientific Basis* (Houghton et al. eds., Cambridge Univ. Press 2001) (available at http://www.grida.no/climate/ipcc_tar/wg1/index.htm) ("Working Group I report"); *Climate Change 2001: Impacts, Adaptation and* (continued...)

approximately twenty nations, including the U.S.,[6] recognize the IPCC's 2001 findings as the most authoritative available concerning human-induced changes in climate and associated consequences. As a result of my involvement in the development of these assessments, as summarized in paragraph 4, I have an extensive understanding of the findings of the IPCC reports relating to climate change science and consequent impacts, especially as they relate to the United States.

8. The National Assessment of the Potential Consequences of Climate Variability and Change, undertaken by the U.S. Global Change Research Program (USGCRP) pursuant to Section 106 of the Global Change Research Act of 1990 [Public Law 101-606], is the major assessment most directly focused on the potential impacts of climate change for the United States.[7] As a result of my role as an author and as Executive Director of the office responsible for coordinating preparation of the National Assessment (see paragraph 3), I have a detailed knowledge of the findings of the National Assessment.

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[5] (...continued)
Vulnerability (McCarthy et al. eds., Cambridge Univ. Press 2001) (available at http://www.grida.no/climate/ipcc_tar/wg2/) ("Working Group II report"); and *Climate Change 2001: Mitigation* (Pachauri et al. eds., Cambridge Univ. Press 2001) (available at http://www.grida.no/climate/ipcc_tar/wg3/index.htm) ("Working Group III report"). In addition, the IPCC has published many other special reports and documents. See http://www.ipcc.ch/pub/reports.htm.

[6] Natl. Research Council, *Climate Change Science: An Analysis of Some Key Questions* (Natl. Academies Press 2001).

[7] U. S. Global Change Research Program, *Climate Change Impacts on the United States: The Potential Consequences of Climate Variability and Change: Overview Report* (2000) and *Foundation Report* (2001). Both reports are available from Cambridge University Press.

9. The U.S. Government also included the findings of the National Assessment in its *Climate Action Report 2002,* the U.S. Government's quadrennial national communication under the United Nations Framework Convention on Climate Change.[8] I prepared Chapter 6 of this report, on impacts and adaptation, in my capacity as Executive Director of the National Assessment Coordination Office of the USGCRP. It is in full agreement with the presentation of the science and impacts contained in the IPCC and National Assessment reports.

10. The IPCC and NAST assessments carefully indicate the level of confidence and uncertainty that can be associated with the various dimensions of the issue. For example, the IPCC's Third Assessment Report adopted a specific set of terms to address the degree of certainty associated with various findings, with a numerical range of likelihood associated with each term: "In this Summary for Policymakers and in the Technical Summary, the following words have been used where appropriate to indicate judgmental estimates of confidence: *virtually certain* (greater than 99% chance that a result is true); *very likely* (90-99% chance); *likely* (66-90%); *medium likelihood* (33-66% chance); *unlikely* (10-33% chance); *very unlikely* (1-10% chance); *exceptionally unlikely* (less than 1% chance)."[9] For the U.S. National Assessment, NAST developed a similar lexicon: very likely or very probable, likely or probable, possible, unlikely or some chance, and very unlikely or little chance. My use of these terms in the following paragraphs is consistent with this IPCC and NAST usage.

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[8] U.S. Dept. of State, *U.S. Climate Action Report 2002* (U.S. Government Printing Office 2002).

[9] IPCC Working Group I report, 2004, page 2, footnote 7 [italics in original].

The Role of Greenhouse Gases in Global Warming

11. Greenhouse gases in the atmosphere absorb about 90% of the solar energy that is radiated upward from the Earth's surface, and then these greenhouse gases re-radiate much of the energy back down to the surface. In this way, the greenhouse gases act in a manner roughly equivalent to adding a blanket over the Earth. The higher the concentrations of greenhouse gases, especially CO_2, CH_4, and N_2O, the greater will be the trapping of heat and the increase in surface temperature.

Man-Made Increases in Greenhouse Gas Concentrations and Resulting Global Warming

12. The concentration of CO_2 in the air has increased from about 278 ppmv (about 0.028%) to over 370 ppmv[10] since the start of the Industrial Revolution.[11] Methane (CH_4) concentrations have increased from about 0.7 ppmv in 1750 to about 1.745 ppmv today, and nitrous oxide (N_2O) concentrations have increased from about 0.27 ppmv in 1750 to over 0.314 ppmv today. The concentrations of hydrofluorocarbons (a man-made compound invented only in the last century) are also increasing.[12]

13. The increase in greenhouse gas concentrations is very likely the dominant cause of the increase in average global surface temperatures of approximately 0.6°C during the 20th century. Evidence of global-scale warming over this period is also found in the unusually strong retreat of mountain glaciers

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[10] NOAA recently reported that the peak monthly value of the CO_2 concentration had reached over 375 ppmv.

[11] The abbreviation "ppmv" stands for parts per million by volume, which is equivalent to saying the number of molecules in the atmosphere of a given substance for every million molecules of dry air.

[12] *See* IPCC, Working Group I report, 2004, at page 358.

in many areas of the world, faster rate of rise of sea level as compared to before the 20th century (as a result of both glacial meltwater flowing into the oceans and heating-induced thermal expansion of the ocean waters), increases in the amount of moisture in the atmosphere and in the share of total precipitation occurring during intense rainfall events, and geographic shifts in the ranges of various plants and animals that are largely consistent with human-induced shifts in the climate. Each of these changes is indicative of global-scale warming and associated changes in climate since the mid-19th century, and all are occurring simultaneously.

14. Natural influences alone cannot explain the very sharp warming of the late 20th century. If solar irradiance has been changing at all, it has been decreasing during the second half of the 20th century, and the record of volcanic eruptions indicates that they have also likely induced a cooling influence over the past 50 years—so the two most important natural influences would have tended to cool the Earth just when it was in fact warming rapidly. The warming has also been larger than could be explained by past natural oscillations in the climate since the end of the last glaciation about 10,000 years ago.

Projections of Changes in Greenhouse Gas Emissions Over the 21st Century

15. Reliable projections of future changes in the climate are most effectively carried out using: (a) climate models that ensure objective and quantitative consideration is given to all relevant processes and factors governing the behavior of the climate system, and (b) emissions scenarios that are based upon the best available projections of how population, economic development, and energy technologies are expected to evolve.

16. Absent changes in policy to reduce greenhouse gas emissions, atmospheric concentrations of these gases are likely

to increase at least as much and at least as fast as in recent decades. I base this opinion on internationally accepted quantitative scenarios generated by the IPCC.[13] These scenarios cover a wide range of possible outcomes from now until the end of the 21st century in terms of global population growth, economic development, and energy technologies and rates of use.

17. If annual global emissions of greenhouse gases continue to increase in the next several decades in accordance with these scenarios, there will be significant increases in the atmospheric concentrations of these gases. Under the most plausible energy scenarios, the CO_2 concentration will continue to increase over the coming decades, reaching between two to three times its preindustrial level by the end of this century (for reference, the current concentration is approximately 1.35 times the preindustrial concentration).

Future Global Warming

18. These increases in concentrations will likely accelerate the rate of warming. In its Third Assessment Report, averaging across the results of climate models, the IPCC concluded that global surface air temperature is likely to increase by about 0.2 to 0.5°C (about 0.3 to 0.9°F) per decade. By the end of the century, global average surface air temperature is projected to increase by about 2 to 4.5°C over 1990 levels. These are projections for changes in the global average surface temperature. Temperature changes over land areas are expected to be greater than over the ocean and temperature changes in mid to high latitudes are expected to exceed changes in low latitudes. Because of this, the IPCC's projection of regional temperature changes indicates larger changes are likely over

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[13] IPCC, *Emissions Scenarios*, 2000 (Cambridge Univ. Press 2000) (avail. at http://www.ipcc.ch/pub/sres-e.pdf).

North America. Warming in the Arctic is projected to be even greater.[14]

19. Overall, this projected temperature increase would be likely to make average conditions by the end of this century warmer than they have been for at least 420,000 years (the period for which ice core data is available).

The Consequences of Future Global Warming

20. This projected temperature increase would have widespread adverse consequences.[15] For the U.S., the National Assessment summarizes key findings for different regions of the country and for different national sectors.[16] The following enumeration of conditions focuses mainly on consequences related to human health and the services provided by ecosystems and landscapes within the U.S.

21. ***Increased incidence of high temperatures and extremely high heat index:*** The climate scenarios considered in the U.S. National Assessment were based primarily on model simulations done by two IPCC-accepted models, each running a mid-range scenario for future emissions. These models projected an annual average warming of about 3 to 5°C (about

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[14] IPCC Working Group I report, 2004, at chapter 10.

[15] See IPCC's Third Assessment Report *Climate Change 2001: Impacts, Adaptation and Vulnerability* (McCarthy et al. eds., Cambridge Univ. Press 2001) (available at http://www.grida.no/climate/ipcc_tar/wg2/) ("Working Group II report"). In addition, a database of articles on the likely impacts of climate change for the U.S. and other countries is available at <http://www.climate.org/CI/index.shtml>.

[16] National Assessment Synthesis Team, U.S. Global Change Research Program, *Climate Change Impacts on the United States, Overview* (Cambridge Univ. Press 2000) and *Foundation* (Cambridge Univ. Press 2001) (these reports and supporting regional and sectoral reports are available at <http://www.usgcrp.gov/usgcrp/nacc/default.htm>).

5 to 9°F) across the U.S. during this century, which would be several times the increase across the U.S. during the 20th century.[17] The change in summertime temperatures, combined with the associated increase in absolute humidity, is projected to cause the 24-hour average heat index (a combined measure of temperature and humidity) for July (as a representative summer month) to increase by at least 6°C (about 10°F) over most of the country by 2100. Changes are projected to be about double this amount in some regions, particularly across the southeastern and south-central U.S. where the summertime heat index is already high. In addition to such changes in the monthly average temperature, the models also project that the length of the very warm season will increase and the occurrence of very high heat index conditions will be expected to be more frequent in more northerly parts of the country where people are not well adapted to such conditions.

22. ***Air quality is likely to be further impaired:*** Without additional control measures, ongoing and projected changes in climate due to global warming are very likely to increase emissions of various pollutants.[18] Higher temperatures caused

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[17] MacCracken et al., Climate change scenarios for the U.S. National Assessment, **84** *Bulletin of the American Meteorological Society*, 1711 (2003) (<avail. at http://ams.allenpress.com/pdfserv/i1520-0477-084-12-1711.pdf>).

[18] For example, warmer temperature will increase demand for energy (in buildings, cars, etc.) while decreasing the efficiency of combustion processes (in generating plants and in internal combustion engines), leading to the emission of more pollutants; warmer temperatures will increase the release of smog-forming hydrocarbons from oil storage tanks and other storage containers and from forests and vegetation; the increased CO_2 concentration is expected to enhance growth of biomass, which could in some regions provide a larger source of hydrocarbon emissions; warmer temperatures will tend to increase the summertime drying of biomass, making the increased biomass into a larger fuel base for fires and the pollutants that they emit.

by global warming will increase the rates of the photochemical reactions that convert smog-forming emissions (volatile organic compounds and oxides of nitrogen) into ozone smog.[19] In addition, unless there is a substantial and compensating tightening of emissions standards on all types of sources, longer warm seasons are very likely to increase the frequency of high ozone concentration episodes and violations of air quality standards.

23. ***Projected warming will also cause significant sea level rise:*** Global warming contributed significantly to the 10 to 20 cm (about 4 to 8 inches) rise in sea level during the 20th century. The meltback of mountain glaciers and warming of the oceans will contribute even more significantly to future sea level rise. The IPCC assessment projects that these factors, and other factors affecting the amount of water stored in reservoirs and underground, will cause sea level to rise by about 9 to 88 cm (about 4 to 35 inches) by 2100, with a central range estimate of 20-70 cm (8-28 inches) that I believe more likely encompasses what will occur. To determine the projected sea level rise at a particular location, the local rate of subsidence or uplift must also be accounted for.

24. ***More frequent and intense extreme weather events:*** The additional energy available from increased average temperature will drive an increase in evaporation, ensuring that more moisture will precipitate out as rain and snow. The increased rate of condensation releases additional energy to the atmosphere and intensifies convective (e.g., thunder-storm-like) motions in the atmosphere. Observations from many countries,

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[19] As an example, results from the New York Climate and Health project indicate that warmer temperatures significantly increase the likelihood of ozone exceedances in that region. National Assessment Synthesis Team, U.S. Global Change Research Program, *Climate Change Impacts on the United States, Overview* (Cambridge Univ. Press 2000), page 104.

including the U.S., indicate that such changes are already evident as a result of the warming during the 20th century, and these observed trends are very likely to continue, contributing to more frequent flooding and inundation in vulnerable regions. Of particular concern is the potential for an increase in the wind speed and peak rate of precipitation of major tropical cyclones (i.e., hurricanes and typhoons).

25. ***An increase in local flooding and coastal inundation:*** The increase in the frequency and intensity of intense convective rainfall events is likely to increase incidents of localized flooding. The increased wind speed and peak rate of precipitation from hurricanes, along with higher storm surges due to the increase in sea level and in hurricane winds, are likely to cause greater damage and put those in the paths of hurricanes (or along streams and rivers whose levels are raised by hurricanes) at greater risk of physical injury, property damage, and subsequent anguish. Soil compaction, sea level rise and recurrent severe storms are destroying approximately 20-30 square miles of Louisiana wetlands each year. These wetlands serve as the "shock absorber" for storm surges that could inundate New Orleans, significantly enhancing the risk to a major urban population. More frequent flooding and inundation have the potential for developing in other low-lying regions around the country, including along low-lying coastal areas on the Gulf of Maine, Cape Cod, Long Island and the New York metropolitan area and New Jersey, and further south along the Eastern Seaboard. The increased occurrence of very dry conditions not only increases the risk of forest fires that can wipe out homes and communities, but also sets the stage for the subsequent compounding effects of mudslides.

26. ***Climate change will impact water resources:*** More precipitation falling in more intense weather events will increase both flood- and drought-related damage. As soils

become saturated, more excess rain will run off into streams and rivers rather than be retained as soil moisture. At the same time, the increased temperatures will cause more rapid evaporation of what moisture does exist in the soil, leading to more rapid drying. In vulnerable regions, this drying will cause more dust to be lofted. In mountainous areas of the western U.S. where winter snowpack is an important source of springtime runoff into rivers and reservoirs, the warming projected in the climate scenarios used in the National Assessment will lead to sharp reductions in springtime snowpack and very significant shifts in the timing of snowmelt and reductions in warm season water resources.

27. ***Water quality is likely to be adversely affected:*** A wide range of potential influences are likely to affect water quality and increase the risk of disease from aquatic organisms harvested from rivers, estuaries, and coastal environments.[20] Increasing air temperatures and a longer warm season, for example, will increase stream and estuarine temperatures, allowing more rapid development of various microbial vectors. Additionally, changes in flow conditions are likely to allow increased salinity in estuarine areas in some regions. Pulses of higher precipitation, runoff, and flooding are also likely to augment the transport of non-point pollution and soil into rivers and estuaries. Moreover, higher storm surges[21] are very likely to increase destruction of coastal development, carrying polluting materials into freshwater and marine systems. Higher temperatures tend to enhance the rate of spread of invasive

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[20] National Assessment Synthesis Team, U.S. Global Change Research Program, *Climate Change Impacts on the United States, Overview* (Cambridge Univ. Press 2000), page 108.

[21] Because of wind creates waves in shallow water, the increase in storm surge height is estimated to be 50% greater than the increase in the depth (i.e., the rise in sea level).

species into water environments, and high precipitation conditions can exceed the capacity of combined sewage-storm water systems, necessitating release of untreated sewage to waterways.

28. ***Conditions are likely to be more conducive to the spread and persistence of various disease vectors:*** At present, many insect, tick, and rodent borne disease vectors in the U.S. are controlled by development practices, building and community design standards and the seasonal cycle of temperatures (for instance, persistent temperatures below freezing) that tends to limit reproduction or even kill off existing vectors. Warmer conditions and alteration of traditional precipitation amounts are likely to improve conditions for both existing and new vectors, both by expanding ranges in the U.S. for endemic vectors and by making it easier for pests carried in by travelers, ships, or freight to become established. Limiting diseases outbreaks will require enhanced and more expensive public health programs, greater use of pesticides, upgraded building and community design standards, and increased education and awareness by the public, all of which will necessitate increased resources.

Reducing U.S. Greenhouse Gas Emissions Will Lessen the Impacts of Global Warming

29. Very substantial cutbacks in CO_2 emissions must begin during the next few decades to significantly limit the warming projected for later in this century. The earlier the cutbacks begin, the more gradual and economical they may be phased-in.

30. The *U.S. Climate Action Report 2002* provides a breakdown of the U.S. emissions by end use sector.[22] U.S. emissions increased by almos. 13 percent during the 1990s. For 1999, the carbon emissions are given as:

End-Use Sector	1999 Emissions (Tg CO_2 equiv)	1999 Emissions (billion metric tons of carbon)	Percent of U.S. emissions
Industrial	1784	0.49	33%
Transportation	**1716**	**0.47**	**32%**
Residential	1036	0.28	19%
Commercial	864	0.24	16%
U.S. Territories	53	0.01	<1%
Total	5453	1.49	100%

31. Based on average emissions over the 1990s, the U.S. was responsible for emitting roughly 22% of the world's fossil fuel emissions during that decade and the U.S. transportation sector (mainly automobiles) was responsible for about 7% of global fossil fuel emissions. Within the U.S., the transportation sector is responsible for approximately 32% of national carbon emissions. The U.S. transportation sector is becoming an increasing share of U.S. emissions due to two trends: overall energy efficiency is improving in the industrial sector while the number of vehicles is growing, and the average emission of CO_2 per vehicle is increasing.[23]

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[22] U.S. Dept. of State, *U.S. Climate Action Report 2002*, page 41 (U.S. Government Printing Office 2002).

[23] Chapter 3 (Greenhouse Gas Inventory) in *U.S. Climate Action Report—2002*, pages 26 to 49, Government Printing Office, 2002. Table 3-4 on page 36 summarizes the trends in CO_2 emissions by year and vehicle type; total vehicle emissions increased by 16% from 1990 to 1999. Footnote (continued...)

32. Given the large emissions of CO_2 and other greenhouse gases from motor vehicles in the United States and the lead time needed to economically introduce changes into the motor vehicle fleet, emission reductions must be initiated in the near future in order to significantly reduce and delay the impacts of global warming. If the U.S. takes steps to reduce motor vehicle emissions, other countries are very likely to take similar actions regarding their own motor vehicles using technology developed in response to the U.S. program, thereby multiplying the total emission reduction benefit of the U.S. action. This would discernibly and significantly reduce and delay projected adverse consequences of global warming, and greatly improve the likelihood that there would be time for additional development and use of even better technologies. With such efforts, accompanied by progress in limiting other emissions, it would be much more likely that the extent of climate change could ultimately be limited to levels that would avoid the most serious impacts of global warming.

I declare under the penalty of perjury that the foregoing is true and correct.

Executed on June 18, 2004 in Washington, D.C.

/s/

Michael C. MacCracken

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[23] (...continued)
14 on page 35 admits that the average miles per gallon achieved by the U.S. highway vehicle fleet decreased in 1998 and 1999 (the latest years for which information is available).

IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

Commonwealth of Massachusetts, et al., Petitioners	)	Docket No. 03-1361 and consolidated cases (03-1362, 03-1363, 03-1364)
v.	)	
Environmental Protection Agency, Respondent	)	

DECLARATION OF MICHAEL P. WALSH

I, MICHAEL P. WALSH, declare as follows:

1. I am a mechanical engineer. I obtained a Bachelor of Sciences in Mechanical Engineering from Manhattan College, June 1966, and have spent my entire career, approximately 35 years, working on motor vehicle pollution control and energy issues. The first part of my career was spent in government service, initially with the City of New York (from 1970 to 1974) and then with the U.S. Environmental Protection Agency ("EPA") (from 1974 to 1981). With each agency, I served in various capacities and eventually as Director of its motor vehicle pollution control efforts. During my tenure, EPA issued many regulations to reduce motor vehicle emissions. For example, EPA promulgated the first diesel particulate standard in the world for light duty vehicles.

2. Since 1981 I have been an independent consultant advising governments and industries around the world on motor vehcle polluton technology, fuel reformulation, and other pollution reduction regulatory strategies. For example, for

several years I served as the Chairman of the World Bank Advisory Panel to the Mexico City Transport/Air Quality Management Program. Subsequently, I served in a similar capacity with the Chinese National Environmental Protection Agency. During the 1980s, I was an advisor to the U.S. Senate Environment and Public Works Committee during development of the 1990 Clean Air Act Amendments. I currently co-chair the Mobile Source Subcommittee of the U.S. EPA's Clean Air Act Advisory Committee, and am actively involved in projects in Brazil, Hong Kong, Mexico City, Vietnam, and China. I recently served as a member of the National Research Council "Committee on the Future of Personal Transport Vehicles in China." I have also been serving as the principal technical consultant to the Asian Development Bank regarding a regional technical assistance project, "Reducing Motor Vehicle Emissions in Asia" and served as a peer review expert to the European Commission during its recent deliberations regarding near zero sulfur fuels.

3. I have carried out projects for government bodies in the European Union, Japan, South Korea, Taiwan, China, Hong Kong, Philippines, Thailand, Indonesia (for U.S. AID), Vietnam, Malaysia, Singapore, Sri Lanka, India, Kuwait, Iran, Romania, Russia, Hungary, Poland, Mexico, Brazil, Canada and Chile. My consulting has included projects for numerous internatonal organizations such as the United Nations Environment Program, the World Bank, the Asian Development Bank, the World Health Organization and the Organization for Economic Cooperation and Development. My complete curriculum vitae is attached.

4. The following findings and conclusions are offered as my expert opinion, based on my education, qualifications, and experience, and based on my detailed knowledge of the history of the development and adoption of motor vehicle emission

controls in the United States and around the world over the past four decades.

5. First, the adoption of emission standards in the United States for a wide variety of motor vehicle emissions from 1968 to the present resulted in substantial investment by the automobile industry and its suppliers in technical solutions to reducing harmful emissions from motor vehicles. As a result of this investment, both vehicle manufacturers and their suppliers developed a variety of pollution control technologies. These technologies, in turn, have resulted in dramatic reductions in emissions of pollutants including hydrocarbons, carbon monoxide, oxides of nitrogen, particulate matter, and lead from vehicles produced and sold in the U.S.

6. Some of these technologies involved improvements and refinements to existing combustion engines, while others were add-on, post-combustion technologies. In some cases, fundamentally new technologies were developed and commercialized. One example is the development of electronic controls that optimize air/fuel and spark management systems; these innovations improved combustion and increased power and range while at the same time cutting conventional emissions, reducing fuel consumption, and reducing carbon dioxide emissions. Another example is the introduction of catalytic converters on most new cars starting with the 1975 model year, which not only reduced emissions dramatically but also allowed engines to be re-optimized for performance and fuel economy.

7. Second, once developed and demonstrated in the U.S., these technologies have subsequently spread around the world. To cite but one example, catalytic converter technology was developed during the 1970's to comply with U.S. vehicle emissions standards. Other countries subsequently adopted similar standards based on the U.S. experience, and similar

technology is now used on all new cars produced and sold in Japan, the European Union, South Korea, China, Taiwan, Thailand, India, Australia, Brazil and Mexico. In fact, approximately 90 percent of all new gasoline fueled vehicles sold in the world today are equipped with catalyst technology and emit approximately an order of magnitude lower emissions per mile driven than vehicles emitted before this technology was developed for the U.S. market. In the same way, electronic controls are now the norm in these countries as well.

8. Similar patterns are starting to emerge with regard to heavy-duty vehicles. The U.S. recently tightened heavy-duty engine emissions standards to force the development of new low emissions technologies. In response, engine manufacturers and suppliers are currently investing substantial resources to develop advanced technologies, which are expected to be commercialized later this decade. Some vehicles equipped with these advanced technologies have already been introduced into the market. Both the European Union and Japan have also indicated that they will further tighten their heavy-duty standards to take advantage of these emerging technologies developed in response to U.S. regulatory strategies, as well as to force the introduction of additional low emissions technologies.

9. Motor vehicles are substantial sources of greenhouse gas emissions that contribute to global warming, including carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons. For example, in the U.S., emissions from on-road transportation (i.e., passenger cars, light duty and other trucks, and buses) were responsible for 24% of U.S. annual CO_2

emissions in 2001.[1]

10. On the basis of my experience with the control of other pollutants summarized above, I have no doubt that establishing emissions standards for pollutants that contribute to global warming would lead to investment in developing improved technologies to reduce those emissions from motor vehicles, and that successful technologies would gradually be mandated by other countries around the world.

11. This is, in fact, already occurring with regard to reducing motor vehicle emissions of hydrofluorocarbons (HFCs) from vehicle air conditioning systems. The EPA, the California Air Resources Board, and the European Union have been successfully collaborating for several years to develop vehicle air conditioning systems that have lower HFC leak rates, that use alternative HFCs with lower global warming potency, or that use other refrigerants altogether. Because many of these systems are more efficient than current equipment, they also indirectly reduce vehicle tailpipe emissions of CO_2. Both California and the European Union intend to require these improved systems by regulation. I note that the Society of Automotive Engineers recently announced a partnership by regulatory authorities, automobile and component makers, and others to dramatically reduce motor vehicle HFC emissions in the U.S. and other countries.[2]

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[1] U.S. Environmental Protection Agency, *Emissions Inventory 2003: Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2001*, Tables ES-1, 2-7 (April 2003) (avail. at http://yosemite.epa.gov/oar/globalwarming.nsf/content/ResourceCenterPublicationsGHGEmissionsUSEmissionsInventory2003.html).

[2] SAE International, "*Ambitious Mobile Air Conditioning Climate Protection Goal Announced*" (Apr. 22, 2004), available at http://www.sae.org/news/ (continued..)

12. In conclusion, based on my education, experience, and expertise, it is my strong opinion that U.S. regulatory requirements to reduce greenhouse gas emissions from motor vehicles would lead to investment and successful action to reduce those emissions by vehicle manufacturers that serve the U.S. market. In turn, efforts to reduce emissions from U.S. motor vehicles would proliferate around the world as other countries again adopted similar regulatory requirements. Successfully reducing greenhouse gas emissions from vehicles in the U.S. and other countries would substantially and measurably slow and reduce the build-up of these pollutants in the atmosphere and would substantially and measurably mitigate the impacts of global warming.

I declare under the penalty of perjury that the foregoing is true and correct.

Executed on 10 June 2004, in Arlington, VA.

/s/ _____

Michael P. Walsh

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[2] (...continued)
releases/mobileac.htm.

MICHAEL P. WALSH

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OBJECTIVE

To assist governments in designing or implementing programs to address motor vehicle related pollution or energy problems.

SKILLS

Demonstrated proficiency in designing and managing motor vehicle pollution control and energy programs.

Extensive background in all technical phases of motor vehicle pollution and energy problems at the local, national and International level.

Unique policy overview regarding global motor vehicle air pollution and energy issues.

Expertise in working with many countries around the world in designing and implementing optimal motor vehicle air pollution control programs.

EDUCATION

Bachelor of Science (Mechanical Engineering), Manhattan College, New York, 1966

Misc. graduate combustion courses, Princeton University, New Jersey, 1969-70.

EXPERIENCE

1981 to Present: Technical Consultant

Clients have included American Lung Association, Asian Development Bank, Congressional Office of Technology Assessment, Conservation Foundation, Corning International,

Envirotest, League of Women Voters, Manufacturers of Emission Controls Association, NESCAUM, Organization For Economic Cooperation and Development (OECD), Systems Control, United Nations Environment Program, United States Senate Committee on Environment and Public Works, the World Resources Institute, the Environmental Protection Agencies of Brazil, Hong Kong, Mexico, Norway, Sweden, Switzerland, Thailand, Taiwan among others with efforts directed at evaluations of costs and benefits of motor vehicle emission standards, design of emission control programs in developing countries, alternative compliance approaches, analysis of Inspection and Maintenance programs to improve in-use vehicle emissions performance, alternative fuels and the need for control of diesel particulate. Recent efforts have focused on Southeast Asia for the World Bank, UNIDO and the Asian Development Bank.

1978 to 1981: Deputy Assistant Administrator, Mobile Source Air Pollution Control, U.S. Environmental Protection Agency

Directed U.S. program of standard setting, technology assessment, test procedure development, Certification, fuel economy measurement, and technical assistance to States in implementing motor vehicle Inspection and Maintenance programs. Responsible for developing the first diesel particulate standard in the world. Major EPA I/M effort initiated.

1977 to 1978: Special Assistant to Assistant Administrator for Air, Noise and Radiation, U.S. Environmental Protection Agency

Principal advisor to Assistant Administrator on technical and policy issues related to State Plans for achieving health based

air quality standards. Involved in air quality standard setting, air quality monitoring, reasonable controls on sources of polluton, etc.

1974 to 1977: Chief, Technical Support Branch, Office of Enforcement, U.S. Environmental Protection Agency

Lead the technical effort in mobile source enforcement related to testing and data handling in support of Recall and Assembly Line test programs as well as Inspection and Maintenance. Conducted comprehensive review of motor vehicle control program as part of strategy development.

1970 to 1974: Director, Bureau of Motor Vehicle Pollution Control, City of New York, Department of Air Resources Department

Responsible for New York City's motor vehicle pollution control effort with particular focus on the taxicab and truck problems.

AWARDS

Selected for Meritorious Rank in the U.S. Senior Executive Service, 1980.

Lloyd L. Withrow Distinguished Speaker Award from the Society of Automotive Engineers, 1999.

First recipient of the U.S. Environmental Protection Agency Thomas W. Zosel Outstanding Individual Achievement Award for outstanding achievement, demonstrated leadership, and a lastng commitment to promoting clean air, 2000.

California Air Resources Board's "Haagen Smit" award for his "global efforts towards mobile source emissions reduction, 2003.

MEMBERSHIPS

Society of Automotive Engineers

Air and Waste Management Assocation

American Association for the Advancement of Science

ADVISORY GROUPS

American Lung Association, National Action Panel on the Environment

Past Chairman, World Bank External Advisory Panel on Mexico City Transport/Air Quality Management Program

South Coast Air Quality Management District, Technology Advancement Office, Clean Fuels Advisory Committee

Past Chairman, Inspection and Maintenance Peer Review Panel, California Air Resources Board & California Senate (1994)

Past Member, National Research Council, Transportation Research Board, Committee for the Study of Public Policy for Surface Freight Transportation

Past Member, Expert Advisory Panel, Tehran Transport Global Environment Facility Project

Co Chair, US Environmental Protection Agency Sub Committee on Mobile Source Air Pollution Control

Past Chairman, Internatonal Expert Advisory Panel, China National Environmental Protection Agency

Past Member, National Research Council, Transportation Research Board, Committee for the Study of Transportation Options for Megacities in Developing Nations, Panel on Transportation Options

Member, International Advisory Board, Wuppertal Institute for Climate, Environment & Energy

Past Member, Transportation Working Group, China Council for International Cooperation and Environmental Development(CCICED)

Member, National Academy of Engineering, Panel on the Future of the Automobile in China

Past Member Independent Review Panel for US 2007 Heavy Duty Standards & Low Sulfur Fuels

OTHER

Editor of Car Lines, an International Newsletter Dealing With Motor Vehicle Pollution Control and Energy Issues

Invited Lecturer at several universities including Yale, Harvard, Johns Hopkins University.

Married
3 Children
Date of Birth - 8/17/43
US Citizen

FILED DATE :
AUG 31 2006

18

No. 05-1120

In the Supreme Court of the United States

COMMONWEALTH OF MASSACHUSETTS, ET AL., *Petitioners*

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL., *Respondents*

ON WRIT OF CERTIORARI TO
THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

BRIEF FOR THE PETITIONERS

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QUESTIONS PRESENTED

1. Whether the Administrator of the Environmental Protection Agency has authority to regulate air pollutants associated with climate change under section 202(a)(1) of the Clean Air Act, 42 U.S.C. 7521(a)(1).

2. Whether the EPA Administrator may decline to issue emission standards for motor vehicles based on policy considerations not enumerated in section 202(a)(1) of the Clean Air Act.

PARTIES TO THE PROCEEDING

Petitioners, who were petitioners in the court of appeals, are the Commonwealth of Massachusetts, the States of California (acting by and through Governor Arnold Schwarzenegger, the California Air Resources Board, and Attorney General Bill Lockyer), Connecticut, Illinois, Maine, New Jersey, New Mexico, New York, Oregon, Rhode Island, Vermont, and Washington, the District of Columbia, American Samoa Government, New York City, the Mayor and City Council of Baltimore, Center for Biological Diversity, Center for Food Safety, Conservation Law Foundation, Environmental Advocates, Environmental Defense, Friends of the Earth, Greenpeace, International Center for Technology Assessment, National Environmental Trust, Natural Resources Defense Council, Sierra Club, Union of Concerned Scientists, and U.S. Public Interest Research Group.

Respondents are the Environmental Protection Agency (a respondent below), the Alliance of Automobile Manufacturers, National Automobile Dealers Association, Engine Manufacturers Association, Truck Manufacturers Association, CO_2 Litigation Group, Utility Air Regulatory Group, and the States of Michigan, Alaska, Idaho, Kansas, Nebraska, North Dakota, Ohio, South Dakota, Texas, and Utah (all intervenors below).

CORPORATE DISCLOSURE STATEMENT

The statement in the Petition for Certiorari remains accurate.

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Clean Air Act Amendments of 1977, Pub. L. No. 95-95, § 126, 91 Stat. 685. 27
Clean Air Act Amendments of 1977, Pub. L. No. 95-95, § 401, 91 Stat. 685, 791. 41

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70 Fed. Reg. 15994 (2005) 27
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71 Fed. Reg. 9866 (2006) 39

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Energy Information Administration, Emissions of Greenhouse Gases in the United States 2004 (Dec. 2005) 40
H.R. Rep. No. 294, 95th Cong., 1st Sess. (1977) .. 32, 42, 45
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BRIEF FOR THE PETITIONERS

OPINIONS BELOW

The opinion of the court of appeals (Pet. App. A1-A58) is reported at 415 F.3d 50. The order denying the petition for rehearing is reproduced at Pet. App. A98. The order denying the petition for rehearing en banc (Pet. App. A94-A95) and the dissenting statement on denial of rehearing en banc (Pet. App. A96-A97) are reported at 433 F.3d 66.

JURISDICTION

The court of appeals entered its judgment on August 15, 2005 (Pet. App. A99-A100). Petitions for rehearing and rehearing en banc were denied on December 2, 2005. The petition for a writ of certiorari was filed on March 2, 2006, and granted on June 26, 2006. The jurisdiction of this Court rests on 28 U.S.C. 1254(1).

STATUTORY PROVISIONS INVOLVED

Relevant sections of the Clean Air Act, 42 U.S.C. 7401 *et seq.*, are set forth at Pet. App. A101-A102.

INTRODUCTION AND STATEMENT

The statutory framework governing this proceeding is straightforward. Physical or chemical matter that is emitted into the ambient air is an "air pollutant" under the Clean Air Act. 42 U.S.C. 7602(g). The Administrator of the Environmental Protection Agency (EPA) "shall" set standards for air pollutants emitted by new motor vehicles when, in the Administrator's judgment, they "cause, or contribute to, air pollution which may reasonably be anticipated to endanger

public health or welfare." 42 U.S.C. 7521(a)(1). "Climate" and "weather" are components of "welfare." 42 U.S.C. 7602(h).

Carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons are physical and chemical matter. They are emitted into the ambient air by motor vehicles. A prodigious amount of scientific evidence indicates that they are changing our climate. Several parties asked EPA to regulate these chemicals under section 202(a)(1) of the Clean Air Act because they are "air pollutants" that "may reasonably be anticipated to endanger public health and welfare."

EPA denied the petition. Its decision rested on two fundamental errors of law. First, EPA concluded that it had no authority under section 202(a)(1) to regulate air pollutants associated with climate change, and that therefore the chemicals at issue here are not "air pollutants" within the meaning of the Act. Second, the agency decided that even if it had such authority, it would not exercise it, on account of various ad hoc policy considerations not enumerated in section 202(a)(1). The same mistake dooms both legal conclusions: EPA distorted two statutory terms ("air pollutant" and "judgment") and ignored a third ("welfare") in order to inject its own policy preferences into a statute that does not embody them.

EPA's misguided legal conclusions diverted it from the serious scientific inquiry at the heart of section 202(a)(1). Section 202(a)(1) requires the EPA Administrator to set standards for air pollutants emitted by new motor vehicles "which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. 7521(a)(1). EPA did not apply that standard, and it denied the petition without deciding whether carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons may, due to their effects on climate, reasonably be anticipated to endanger public health or welfare. To the extent the agency mentioned the science of climate change at all, it provided little more than a bullet-point list of scientific issues that remain incompletely resolved.

Petitioners ask this Court to correct EPA's legal errors and to remand the case to the agency with directions to apply the correct legal standard to this matter; that is all. A judgment in favor of petitioners will not mandate regulation of air pollutants associated with climate change, nor will it dictate a particular answer to the question whether such pollutants are endangering public health or welfare. It will, however, ensure that the question whether to regulate these pollutants is evaluated according to the legal standard set forth in the Clean Air Act.

I. Proceedings Before EPA

In 1999, the International Center for Technology Assessment and other parties petitioned EPA to set standards for four chemicals emitted by new motor vehicles: carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons. The petition asserted that, due to effects on climate, motor vehicles emitting these chemicals cause or contribute to "air pollution which may reasonably be anticipated to endanger public health or welfare" within the meaning of section 202(a)(1) of the Clean Air Act, 42 U.S.C. 7521(a)(1).

In 2001, EPA requested public comment on the petition. 66 Fed. Reg. 7486 (2001). The agency received nearly 50,000 public comments. Pet. App. A63.

In 2003, EPA denied the petition. 68 Fed. Reg. 52922 (2003). In explaining its decision, the agency announced, first, that the Clean Air Act "does not authorize regulation to address global climate change," Pet. App. A67, and that therefore air pollutants associated with climate change "are not air pollutants under the [Act's] regulatory provisions. . . ." *Id.* at A78. EPA adopted the legal conclusions set forth in a memorandum written by Robert E. Fabricant, then EPA's General Counsel, reversing the legal conclusions reached by two previous General Counsels. *Id.* at A68-A69.

In offering this interpretation of the term "air pollutant," EPA turned away from the language of the statutory

provisions in question and instead relied on failed legislative proposals to address climate change; statutory provisions (in the Clean Air Act and elsewhere) addressing climate change in a "nonregulatory" fashion; and an asserted tension between regulation of air pollutants associated with climate change and the regulatory structure of the Clean Air Act and Energy Policy and Conservation Act. Pet. App. A69-A75, A79-A80. Citing the "economic and political significance" of the issue of climate change, EPA pronounced itself "urged on" in its legal judgment by this Court's decision in *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000). Pet. App. A76.

As a separate basis for its decision—discussed in a section entitled "Different Policy Approach"—EPA stated that it "disagrees with the regulatory approach urged by petitioners," and that it would not be "effective or appropriate for EPA to establish GHG [greenhouse gas] standards for motor vehicles at this time." Pet. App. A82. In place of the regulatory program created by section 202 of the Clean Air Act, EPA offered "near-term voluntary actions and incentives" and "programs aimed at reducing scientific uncertainties and encouraging technological development." *Ibid.*

EPA preferred a "different policy approach" for several reasons. First, noting that "[t]he science of climate change is extraordinarily complex and still evolving," Pet. App. A83, the agency trotted through a list of issues that remain inconclusively resolved. *Id.* at A83-A85. EPA relied primarily on selective quotations from a 2001 report by the National Research Council, *id.* at A82-A84, disregarding, among many others, that report's important opening sentence: "Greenhouse gases are accumulating in Earth's atmosphere as a result of human activities, causing surface air temperatures and subsurface ocean temperatures to rise." J.A. 151.

Second, EPA concluded that regulation under section 202 was not warranted because it would "result in an inefficient, piecemeal approach to addressing the climate change issue," since motor vehicles are one of many sources of air pollutants associated with climate change. Pet. App. A82.

Third, EPA asserted that "[u]nilateral EPA regulation" on this matter could "weaken U.S. efforts to persuade key developing countries to reduce the GHG intensity of their economies." Pet. App. A86. Regulation of air pollutants associated with climate change "raises important foreign policy issues," EPA observed, which it is "the President's prerogative" to address. *Ibid.*

Finally, EPA expressed uncertainty about the availability of technologies to address the emissions at issue. Pet. App. A87.

"In light of [these] considerations," EPA announced, the agency "would decline the petitioners' request to regulate motor vehicle GHG emissions even if it had authority to promulgate such regulations." Pet. App. A86.

II. The Court of Appeals' Decision

Petitioners sought review of EPA's decision in the D.C. Circuit. Petitioners in the court of appeals (and here) include twelve States, three U.S. cities, an American territory, and various public health and environmental organizations. Their interest in this case, detailed in affidavits filed in the court of appeals, arises from the profound harms that they assert are being and will be visited upon them as a result of climate change. The effects of climate change which petitioners have asserted (and which EPA has not denied) include the inundation of an appreciable portion of coastal States' property;[1] damage to publicly owned coastal facilities and infrastructure;[2] additional emergency response costs caused by more frequent and intense storm surges and floods;[3] and

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[1] *See* Jacqz Decl. ¶¶ 10-11; Kirshen Decl. ¶¶ 5-11; Woodward Decl. ¶ 6; Dickson Decl. ¶¶ 6-10; Conrad Decl. ¶¶ 10, 12. The declarations cited here and in the next three footnotes were part of the record in the court of appeals, a copy of which is on file with the Clerk.

[2] *See* Hoogeboom Decl. ¶¶ 4-7; Morrison Decl. ¶¶ 5, 15-16; Conrad Decl. ¶¶ 10-11; Belensz Decl. ¶¶ 7-8.

[3] *See* Tommaney Decl. ¶¶ 13-14; Roos Decl. ¶ 15.

shrinking water supplies due to reduced snowpack.[4] Moreover, some of the environmental effects of climate change (such as exacerbation of ozone pollution) will make it more difficult for States to meet their existing obligations under the Clean Air Act. *See* 66 Fed. Reg. 18245, 18246 (2001) ("[s]tate governments will be affected by the environmental impacts of climate change" because of the increased number of ozone exceedances that will result).[5]

The appeals court panel split three different ways. Judge Randolph authored the court's lead opinion and announced its judgment. Assuming without deciding that the Administrator had authority to regulate air pollutants associated with climate change, Judge Randolph voted to uphold the agency's decision based on its "'policy' considerations." Pet. App. A13-A15. Judge Randolph found that section 202(a)(1)'s reference to the Administrator's "judgment" gave the agency broad enough discretion to make a decision based on "the sort of policy judgments Congress makes when it decides whether to enact legislation regulating a particular area." *Id.* at A13. These considerations included but were not limited to the existence of uncertainty. "It is . . . not accurate to say . . . that

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[4] *See* Fawcett Decl. ¶ 6.

[5] EPA's decision also threatens to have ripple effects on California's and other States' sovereign power to enforce State laws. Automobile manufacturers are challenging a California law regulating the motor vehicle emissions at issue here, alleging that the EPA ruling in this case "precludes California from adopting any new motor vehicle emission standards for carbon dioxide or greenhouse gases." First Amended Complaint, ¶ 123, *Cent. Valley Chrysler-Jeep, Inc. v. Witherspoon*, No. 1:04-CV-06663-AWI-LJO (E.D. Cal.), available at http://pacer.psc.uscourts.gov. California is the only state allowed to set its own motor vehicle emission standards. *See* 42 U.S.C. 7543(b). Other states may adopt such standards if they are, among other things, "identical to" California's standards. 42 U.S.C. 7507. Ten States have done so, and automobile manufacturers have also sued two of them, Rhode Island and Vermont. For discussion, see Brief of the State of Arizona, *et al.*, as Amici Curiae in Support of Petitioners.

the EPA Administrator's refusal to regulate rested entirely on scientific uncertainty . . . ." *Id.* at A14-A15. Judge Randolph concluded that section 202(a)(1) "does not require the Administrator to exercise his discretion solely on the basis of his assessment of scientific evidence." *Id.* at A13. According to Judge Randolph, other "'policy' considerations"—concerns about piecemeal regulation, worries about effects on international treaty negotiations and technological feasibility, and a preference for alternative voluntary approaches—were all factors that the agency was entitled to consider in coming to a decision. *Id.* at A14.

Judge Sentelle dissented in part, while concurring in the judgment. Because what he called the "phenomenon known as 'global warming'" was "harmful to humanity at large," Judge Sentelle thought it was "impossible" to establish standing to adjudicate petitioners' legal claims; the grievance was too generalized to support standing. Pet. App. A18. He nevertheless joined in Judge Randolph's judgment denying the petitions for review on the merits to ensure that a majority supported the denial of the petition. *Id.* at A19-A20.

Judge Tatel dissented. In his dissent, he first described why petitioners had satisfied the requirements for Article III standing. Noting that only one petitioner need have standing, Judge Tatel focused on Massachusetts and found that petitioners had offered unrebutted expert testimony that there was a substantial probability that Massachusetts would suffer "serious loss of and damage to" its coastal property. Pet. App. A27. He also found that petitioners had offered evidence that the harms they described were caused by air pollutants associated with climate change and that the relief they sought would redress their injuries. *Id.* at A28-A29.

On the merits, Judge Tatel (the only panel member to reach the question of EPA's authority) concluded that EPA plainly had statutory authority to regulate air pollutants associated with climate change and that its decision not to regulate these pollutants rested on policy considerations that

fell outside the range of discretion delegated by Congress. Pet. App. A21-A58.

By a vote of 2-1, the panel denied rehearing (Pet. App. A98), and by a vote of 4-3, the D.C. Circuit denied en banc review (Pet. App. A94-A95).

SUMMARY OF ARGUMENT

The language of the Clean Air Act dictates a ruling in petitioners' favor. Perhaps that is why EPA did everything it could to avoid the statutory text relevant to this case. In place of careful analysis of the text, structure, and history of the Act, EPA offered a farraginous list of reasons why it was declining to do what the statute so plainly tells it to do. Here, however, there is no strength in numbers; while the agency's reasons may be many, they do not add up to a persuasive whole. And, individually, they are weak indeed.

I. EPA's first legal error was to conclude that physical and chemical compounds associated with climate change and emitted into the ambient air by motor vehicles are not "air pollutants" within the meaning of the Clean Air Act and thus may not be regulated under section 202(a)(1) of the Act.

A. All of the pollutants at issue here fit easily within the Act's definition of "air pollutant," which "includ[es] any physical, chemical . . . substance or matter which is emitted into . . . the ambient air." 42 U.S.C. 7602(g). To conclude otherwise, EPA engaged in a host of interpretive don'ts: it ignored statutory language, inverted the usual meaning of other language, interpreted the same words to mean different things, and shrugged off Congress's explicit determination that an effect on climate is an important component of human welfare. This Court's decision in *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000), does not support EPA's unprincipled departure from the statutory text. In *Brown & Williamson*, the Food and Drug Administration (FDA) had disclaimed authority to regulate tobacco for sixty years, and Congress had enacted tobacco-specific legislation on the basis

of FDA's repeated disclaimers. Moreover, this Court found, regulation of tobacco under the Food, Drug, and Cosmetic Act would have led to an outright ban on tobacco, a result flatly inconsistent with Congress's expressed intentions. None of these circumstances is present here.

B. In deciding that air pollutants associated with climate change may not be regulated under the Clean Air Act, EPA relied on "indicia of congressional intent" such as failed legislative proposals and various subsequent enactments that are silent on and fully consistent with the provisions at issue here. This Court has made plain that it will not effectively repeal a statutory provision based on indicia such as these. Moreover, two other Clean Air Act programs to which EPA points—the program addressing stratospheric ozone depletion and that establishing ambient air quality standards—comfortably coexist with regulation of air pollutants associated with climate change under section 202(a)(1). Nothing in the program addressing ozone-depleting substances suggests that EPA may not regulate air pollutants associated with climate change under section 202(a)(1). Likewise, to say, as EPA has, that air pollutants associated with climate change may not be regulated under the mobile source program because they may not be appropriate for regulation under the separate National Ambient Air Quality Standards (NAAQS) program is to utter a *non sequitur*. Finally, the Energy Policy and Conservation Act (EPCA) is not inconsistent with regulation of air pollutants associated with climate change under section 202(a)(1) of the Clean Air Act. Nothing in EPCA expressly undoes any category of regulation under the Clean Air Act. On the contrary, both of these laws were written with respectful attention to the other.

C. Even if the statutory language were not plain, EPA's interpretation deserves no deference. Indeed, EPA has not in fact offered an *interpretation* of the language at issue here; it has merely offered a bottom-line conclusion that air pollutants associated with climate change may not be regulated under the Clean Air Act. This conclusion, moreover, conflicts with

other EPA decisions under the Act. An interpretation that is "good for this day and train only"[6] is not one that deserves judicial deference.

II. EPA's second legal error was to conclude that it could decline to regulate air pollutants associated with climate change under section 202(a)(1) on the basis of factors not enumerated in that provision.

A. The regulatory mandate of section 202 is triggered by a conclusion that motor vehicles cause or contribute to air pollution which "may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. 7521(a)(1). Endangerment is the only factor mentioned in section 202(a)(1). Other provisions of section 202, which set forth the criteria for the content of the regulations triggered by a determination of endangerment, specify additional factors for the agency to consider at that stage. Much of the Clean Air Act, in fact, takes the same basic form: regulation is initially triggered by a finding of endangerment to public health or welfare, and the content of regulation is shaped by reference to numerous other factors. EPA was wrong to insert factors beyond endangerment into the carefully circumscribed framework of section 202(a)(1).

B. The text of the Clean Air Act makes plain that three of the policy concerns cited by EPA in declining to regulate air pollutants associated with climate change are irrelevant to section 202(a)(1). The fourth, scientific uncertainty, is relevant, but EPA failed to relate it to the statutory standard of endangerment.

C. Section 202(a)(1)'s reference to the "judgment" of the Administrator does two simple things: it specifies who is to make the determination regarding endangerment, and it makes clear that the Administrator is expected to exercise his expertise on the issues of environmental science and public health and welfare on which the provision turns. From the statutory text, it is plain that the "judgment" Congress called

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[6] *Smith v. Allwright*, 321 U.S. 649, 669 (1944) (Roberts, J., dissenting).

upon relates only to the Administrator's determination whether a given pollutant causes or contributes to pollution that endangers the public health or welfare. What the word "judgment" does *not* do is allow EPA to smuggle into this provision factors otherwise left out of it. To hold that allowance for "judgment" on the part of the Administrator—a feature present throughout the Clean Air Act, as well as in untold numbers of provisions in the United States Code—gives the Administrator unfettered discretion to regulate or not, as he sees fit and without regard to statutory text, would be to effect a radical transfer of authority from Congress to the executive branch.

ARGUMENT

I. EPA HAS AUTHORITY TO REGULATE AIR POLLUTANTS ASSOCIATED WITH CLIMATE CHANGE UNDER SECTION 202(a)(1) OF THE CLEAN AIR ACT.

In concluding that the Clean Air Act "does not authorize regulation to address global climate change," Pet. App. A67, EPA first decided what the statute meant and then bent the statutory language to fit the agency's predetermined meaning. Rather than beginning with the language of the statute, as this Court's precedents invariably instruct, *see, e.g., Arlington Cent. Sch. Dist. Bd. of Educ. v. Murphy*, 126 S.Ct. 2455, 2459 (2006); *Hughes Aircraft Co. v. Jacobson*, 525 U.S. 432, 438 (1999), the agency instead began by describing *other* alleged "indicia of congressional intent," Pet. App. A69, including the "political significance" of the issue of climate change. *Id.* at A78. Only after the agency had persuaded itself—through means other than examination of the text of the statutory provisions at issue here—that the statute could not have been meant to authorize regulation of air pollutants associated with climate change, did the agency turn to the language of the statute. This is not the way statutory interpretation is supposed to work.

The proper approach to discerning the Clean Air Act's meaning reveals that carbon dioxide and other air pollutants associated with climate change fit exactly within the Act's definition of "air pollutants." Nothing in the one decision on which EPA relied, *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000), gives EPA a free pass to ignore statutory text. EPA's attempts to circumvent the straightforward meaning of the statutory language—through appeals to subsequent failed legislative proposals and other discredited "indicia" of congressional intent—turn this Court's approach to interpreting statutes inside out.

A. The chemicals at issue here are "air pollutants" subject to regulation under section 202(a)(1).

1. In concluding that air pollutants associated with climate change are not "air pollutants" within the meaning of the Act, EPA managed both to ignore and to distort the plain text of the statute.

Section 302(g) defines the critical term "air pollutant":

> The term 'air pollutant' means any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive (including source material, special nuclear material, and byproduct material) substance or matter which is emitted into or otherwise enters the ambient air.

42 U.S.C. 7602(g). Motor vehicles *emit* the *physical* and *chemical matter* carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons *into the ambient air*. No one involved in these proceedings has ever questioned these incontestable facts, which place these chemicals squarely within the ambit of the statutory definition of "air pollutants."

Closer parsing of the statutory text only bolsters this conclusion. The use of the word "any" in section 302(g)—not once, but twice: "any" air pollution agent, "any" physical or

chemical substance or matter—bespeaks breadth.[7] As this Court has explained, "the word 'any' has an expansive meaning, that is, 'one or some indiscriminately of whatever kind.'" *Dept. of Hous. and Urban Dev. v. Rucker*, 535 U.S. 125, 131 (2002) (quoting *United States v. Gonzales*, 520 U.S. 1, 5 (1997)); *see also, e.g., J.E.M. AG Supply, Inc. v. Pioneer Hi-Bred Int'l, Inc.*, 534 U.S. 124, 130 (2001) ("In choosing such expansive terms . . . , modified by the comprehensive 'any,' Congress plainly contemplated that the [statutory provision] would be given wide scope.") (quoting *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980)).

EPA's interpretation of the term "air pollutant" is at odds with section 302(g)'s use of the word "any." EPA asserted that "a substance does not meet the CAA [Clean Air Act] definition of 'air pollutant' *simply because* it is a 'physical, chemical, biological, radioactive * * * substance or matter which is emitted into or otherwise enters the ambient air.' It must also be an 'air pollution agent.'" Pet. App. A79 n.3 (emphasis added). To accept EPA's view would be to rewrite the statutory language, changing it from "*any* physical, chemical, biological, radioactive . . . substance or matter" to the very different phrase "*some* physical, chemical, biological, radioactive . . . substance[s] or matter." But that is not what the statute says.

In addition, EPA's interpretation inverts the meaning of the word "including." Section 302(g) states, "[t]he term 'air pollutant' means any air pollution agent or combination of such agents, *including* any physical, chemical, biological, radioactive . . . substance or matter." 42 U.S.C. 7602(g) (emphasis added). In suggesting that some "physical, chemical, biological, radioactive * * * substance[s] or matter" are not "air pollution agent[s]," Pet. App. A79 n.3, EPA

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[7] Section 202(a)(1) also signals breadth: it applies to "*any* air pollutant" emitted from "*any* class or classes of new motor vehicles or new motor vehicle engines" which meet the standard of endangerment. 42 U.S.C. 7521(a)(1) (emphasis added).

implied that the class of "air pollution agents" is *smaller* than the class of "physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air." However, the use of the word "including" indicates that "air pollution agent" is, if anything, to be given a more spacious, not more cramped, meaning than the words that follow it. "To 'include' is to 'contain' or 'comprise as part of a whole.'" *Chickasaw Nation v. United States*, 534 U.S. 84, 89 (2001) (quoting Webster's Ninth New Collegiate Dictionary 609 (1985)).[8] Thus, an "air pollution agent" is the "whole" of which "any physical, chemical, biological, radioactive . . . substance or matter" is a "part."

Petitioners' reading also does justice to the word "agent." Congress chose to include within the category of "air pollutants" not merely the "substance[s] or matter" that might comprise air pollution, but also other "agents" of air pollution. These agents could include phenomena that, unlike "substance[s] or matter," have no mass (including, for example, heat and certain types of ionizing radiation, such as ultraviolet, gamma, and X-rays). Such phenomena could be "agents" of air pollution even though they are not "substance[s] or matter." Thus, far from having a constrictive effect on the phrase following the word "including," the use of the term "air pollution agent" indicates applications of the Act to phenomena not embraced by the "including" clause.

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[8] *See also S.D. Warren Co. v. Maine Bd. of Envtl. Prot.*, 126 S.Ct. 1843 (2006) (provision stating that "the term 'discharge' when used without qualification includes a discharge of a pollutant, and a discharge of pollutants" held to mean that "discharge" was broader than the terms following "includes"); *P.C. Pfeiffer Co., Inc. v. Ford*, 444 U.S. 69, 77 n. 7 (1979) (in provision defining "employee" to mean "any person engaged in maritime employment, including any longshoreman or other person engaged in longshoring operations," the word "including" was interpreted "to indicate that 'longshoring operations' are a part of the larger group of activities that make up 'maritime employment'").

The text of the Act also makes clear that including air pollutants associated with climate change under the statutory rubric of "air pollutants" comports with Congress's legislative aims. The basic purpose of the Clean Air Act is to protect public health and welfare. 42 U.S.C. 7401(b)(1). Adverse effects on public health and welfare are the key triggers for regulation under the Act. *See, e.g.*, 7411(b)(1)(A) (stationary sources), 7521(a)(1) (motor vehicles), 7545(c) (fuels and fuel additives). Here is the Act's definition of "welfare":

> All language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, *weather*, visibility, and *climate*, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants.

42 U.S.C. 7602(h) (emphasis added). EPA's view that the Clean Air Act "does not authorize regulation to address concerns about global climate change," Pet. App. A78, is completely at odds with the concern for effects on climate and weather, explicit in this provision. It would be strange indeed for Congress to conclude, so pointedly, that climate and weather are important components of human welfare, yet to deprive EPA of authority to do anything about the pollutants that most affect these features of our environment. EPA's notion that "air pollution" excludes airborne matter that produces effects expressly included in the Act's key phrase ("public health or welfare") is untenable.

Indeed, even absent the express references to "climate" and "weather" in the definition of the pivotal term "welfare," section 302(h) would nevertheless signal congressional concern with the kinds of harms posed by air pollutants associated with climate change. Climate change either triggers or exacerbates every one of the effects listed in section 302(h). EPA's stingy interpretation unjustifiably shrinks the agency's

capacity to respond to effects that Congress has undeniably directed it to address.

What is more, EPA is attempting to accomplish this shrinkage through a statutory phrase—"air pollutant"—that gives no hint of such a repercussion. Instead, the natural reading of this term, the one that hides no elephants in mouseholes, is that it describes the large class of substances and phenomena that could potentially lead to regulation under the Act. While the Act defines "air pollutant" broadly, emissions of air pollutants are actually *regulated* only when the agency concludes that they may reasonably be anticipated to endanger the public health or welfare. *See, e.g.*, 42 U.S.C 7411(b)(1)(A) (new stationary sources); 7521(a)(1) (new motor vehicles). Interpretation of the phrase "air pollutant" in accordance with the plain language of the statute will thus cause no untoward regulatory results. EPA's General Counsel erred in suggesting that reading section 302(g)'s language as written would lead to the regulation of "virtually anything entering the ambient air . . . ." J.A. at 135 n.9.

EPA's interpretation also errs in giving no weight to the Act's explicit inclusion of carbon dioxide within a list of "air pollutants." Section 103(g) directs EPA to conduct a research program concerning "[i]mprovements in nonregulatory strategies and technologies for preventing or reducing multiple *air pollutants*, including . . . *carbon dioxide* . . . ." 42 U.S.C. 7403(g)(1) (emphasis added).

EPA attempted to avoid the import of this plain text by asserting a dichotomy between "regulatory" and "nonregulatory" programs under the Act and asserting that the Act bars only "regulatory" activities with respect to air pollutants associated with climate change. EPA stated that "GHGs, as such, are not air pollutants under the CAA's *regulatory* provisions, including sections 108, 109, 111, 112 and 202," and that "the term 'air pollution' *as used in the regulatory provisions* cannot be interpreted to encompass global climate change." Pet. App. A78 (emphasis added). On this theory, research on climate change conducted pursuant to section

103(g), 42 U.S.C. 7403(g), comports with EPA's interpretation because such activity is not "regulatory." Pet. App. A71; *see also* J.A. 136 (Fabricant memorandum). Yet research under section 103(g) relates to "air pollution," which EPA has said does not include climate change. Pet. App. A78.

Nothing in the language of the Act allows the phrase "air pollutants" to bear the double meaning EPA seeks to give it. Section 302(g) does not, in defining "air pollutants," give any hint that the reach of this phrase depends on whether a statutory program is "regulatory" or not. As in *Clark v. Benitez*, 543 U.S. 371, 378 (2005), "[t]o give these same words a different meaning for each category would be to invent a statute rather than interpret one."

Moreover, the Act does not even provide any basis for distinguishing actions that are "regulatory" in EPA's sense from ones that are not. EPA suggests that section 821 of the 1990 Amendments, requiring utilities subject to the Clean Air Act's acid rain control program to monitor and report their carbon dioxide emissions, is not a regulatory provision.[9] *See* Pet. App. A70 (stating that section 821 does not "authorize[] the imposition of mandatory requirements"). It is hard to understand what EPA means by "regulatory" or "mandatory" requirements if government-dictated monitoring and disclosure do not come within their terms. Certainly nothing in the Clean Air Act creates or clarifies this division, further confirming that the Act does not permit different definitions for the term "air pollutants" depending on the nature of the statutory program at issue.

In sum, a straightforward reading of the language of the Clean Air Act shows that carbon dioxide and other air pollutants associated with climate change are "air pollutants" potentially subject to regulation under section 202(a)(1). When Congress has spoken as plainly as it has here, an administrative agency is bound to obey that legislative

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[9] Section 821 is uncodified; it appears as a note to section 412 of the Clean Air Act, 42 U.S.C. 7651k.

command. *See, e.g., Chevron U.S.A. Inc. v. Natural Res. Def. Council*, 467 U.S. 837, 842 (1984).

2. EPA has tried to avoid the import of the statutory text by relying on a single case, *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000). EPA read *Brown & Williamson* to stand for the proposition that "in extraordinary cases" facially broad grants of authority must undergo more rigorous scrutiny to decide whether Congress really meant what it said. Pet. App. A76. EPA asserted that just as this Court found Congress did not intend the FDA to regulate tobacco as a "drug" under the Food, Drug and Cosmetic Act (FDCA), so Congress did not intend EPA to regulate greenhouse gases as "air pollutants" under the Clean Air Act. *See id.* at A76-A78. EPA suggested that this case is even more "extraordinary" than *Brown & Williamson*, asserting that regulation of air pollutants associated with climate change "would have far greater economic and political implications than FDA's attempt to regulate tobacco." *Id.* at A76. But this case is worlds away from *Brown & Williamson*.

First, *Brown & Williamson* begins with the reminder that "although agencies are generally entitled to deference in the interpretation of statutes that they administer, a reviewing 'court, as well as the agency, must give effect to the unambiguously expressed intent of Congress.'" 529 U.S. at 125-126 (quoting *Chevron*, 467 U.S. at 842-843). The intent of Congress in section 202(a)(1) of the Clean Air Act is, as we have demonstrated, unambiguous, and nothing in *Brown & Williamson* justifies EPA's departure from that plain intent.

Second, in *Brown & Williamson*, the Court found it determinative that for more than sixty years the FDA had asserted that it had no authority to regulate tobacco under the FDCA, and that Congress had repeatedly enacted tobacco-specific legislation that ratified and was explicitly based on the FDA's longstanding interpretation. 529 U.S. at 154-157. Here, in contrast, before the decision at issue in this case, EPA had never suggested that it lacked authority to regulate air pollutants associated with climate change, and Congress has

enacted no legislation premised on the agency's disclaimer of jurisdiction. In fact, prior to its decision here, EPA had taken the opposite position. In response to congressional inquiries, two EPA general counsels stated that the Clean Air Act *does* provide authority to regulate carbon dioxide. *See* J.A. 46-118. In contrast to the tobacco-specific legislation cited in *Brown & Williamson*, the climate-specific legislation cited by EPA in support of its decision, *see* Pet. App. A69-A71, A74-A75, was not enacted in response to any denial of authority by EPA. In addition, as EPA itself hastened to point out, the climate-specific legislation it cited does not mandate emission reductions. Thus, this legislation does not, as in *Brown & Williamson*, create a regulatory regime that might compete with, or be in tension with, an agency-administered regulatory program.

Third, *Brown & Williamson* stressed that if the FDCA applied to tobacco, it would allow only one result: a total product ban. 529 U.S. at 137. The Court noted that an outright ban would be inconsistent with the half-dozen other tobacco-specific enactments that were all premised on tobacco's remaining legally for sale. *Id.* at 143-144. Because Congress had enacted legislation that was completely at odds with subjecting tobacco to FDCA jurisdiction, the Court declined to conclude that cigarettes were "drugs" or "devices" under that statute. It was in this "extraordinary" context that the Court stated that "we are confident that Congress could not have intended to delegate a decision of such economic and political significance to an agency in so cryptic a fashion." *Id.* at 159, 160. In contrast, regulating air pollutants associated with climate change under section 202 would assuredly not lead to a ban on motor vehicles or substantial economic dislocation, but would result instead in EPA's setting economically and technologically feasible emission standards for them—

something the agency has done for decades for other pollutants emitted by motor vehicles.[10]

In short, this case presents none of the circumstances described by *Brown & Williamson* as "extraordinary." In the end, applying the principles of *Brown & Williamson* to this case yields the same overall conclusion the Court reached there: that Congress "has directly spoken to the issue," and the agency is not free to rewrite the statute simply because it now disagrees with the policy that Congress enacted.

B. EPA erred in finding, in failed bills and separate provisions of the Clean Air Act and other statutes, a congressional intent to forbid EPA to regulate air pollutants associated with climate change under section 202(a)(1).

EPA was compelled to adopt its strained reading of the text of the Clean Air Act because it concluded, wrongly, that Congress had either deprived it of jurisdiction in more recent enactments, or has otherwise made clear to the agency that Congress, not EPA, should deal with climate change. None of the arguments the agency makes in support of this claim is sound.

1. Once *Brown & Williamson* is stripped away as authority for EPA's interpretation of section 202(a)(1), it becomes clear that the Court cannot reach EPA's desired result without effecting a repeal by implication, either through failed legislative proposals or subsequently enacted provisions of the Clean Air Act and other statutes. Here, too, EPA's reasoning reads like a list of anti-rules for statutory interpretation.

First comes EPA's invocation of failed legislative proposals. In its decision, EPA noted that when Congress amended the Clean Air Act in 1990, it did not enact the specific carbon dioxide emission limits then proposed. Pet.

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[10] Section 202 includes protections designed to prevent severe economic impacts. *See, e.g.*, 42 U.S.C. 7521(a)(2).

App. A70-A71. EPA also cited several other legislative proposals that were not enacted. *Id.* at A70, A74-A75. EPA's basic argument is that because Congress was aware of the issue of climate change when it amended the Clean Air Act in 1990, its failure to enact proposals to regulate carbon dioxide signaled that it was "awaiting further information before deciding *itself* whether regulation to address global climate change is warranted and, if so, what form it should take." *Id.* at A75.

The statutory language showing that EPA has authority to regulate carbon dioxide and other air pollutants associated with climate change was in place before the 1990 Amendments, and indeed, before any of the failed legislative proposals EPA cited were developed. By the plain terms of the statute, EPA *already* possessed the authority to regulate greenhouse gases at the time of these proposals. EPA appears to think that subsequent *unenacted* legislation can amend prior *enacted* legislation. This Court has repeatedly rejected such an approach: "It is the intent of the Congress that enacted [the provision at issue], unmistakable in this case, that controls." *Teamsters v. United States*, 431 U.S. 324, 354 n.39 (1977). "Failed legislative proposals are 'a particularly dangerous ground on which to rest an interpretation of a prior statute.'" [11] *Solid Waste Agency of N. Cook County v. US Army Corps of Eng'rs*, 531 U.S. 159, 169-170 (2001); *see also Brown & Williamson*, 529 U.S. at 155 (disclaiming reliance on failed legislative proposals). "[C]ongressional inaction lacks persuasive significance because several equally tenable inferences may be drawn from such inaction, including the inference that the existing legislation already incorporated the offered change." *United States v. Craft*, 535 U.S. 274, 287 (2002) (quoting *Cent. Bank of*

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[11] EPA gains no more interpretive leverage from the failed legislative proposals it cites than petitioners could gain by citing the failed proposal to strip EPA of authority to regulate emissions of carbon dioxide (which cited EPA's position, at the time, that carbon dioxide was a "pollutant"). H.R. 2221, 106th Cong., §§ 3(b), 2(a)(2) (1999).

Denver v. First Interstate Bank of Denver, 511 U.S. 164, 187 (1994)).

EPA is also laboring under the misimpression that subsequently enacted legislation can silently undo previously granted authority, and can do so even when the two pieces of legislation can happily coexist. EPA cited provisions from the 1990 Amendments to the Clean Air Act (amendments enacted, as discussed, years after the language at issue here was settled upon) and from other legislation in asserting that Congress meant for EPA to take a strictly "nonregulatory" approach to climate change. Pet. App. A70-71, A74-A75 (citing sections 103, 602, and uncodified section 821 of the Act). Nothing in these provisions expressly or impliedly removes the authority granted by section 202(a)(1).[12]

In fact, as discussed above, one of the "nonregulatory" provisions EPA relied upon, section 103(g), *reinforces* the interpretation of the word "air pollutant" dictated by the plain text of section 302(g). By expressly including carbon dioxide in a list of enumerated "air pollutants," section 103(g) reaffirms that this climate-changing gas is an "air pollutant" under the Act.

Apart from these provisions in the Clean Air Act, Congress has since 1977 also enacted several statutes pertaining to global climate change.[13] Because such legislation principally

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[12] Section 103(g) says only that "[n]othing *in this subsection* shall be construed to authorize the imposition on any person of air pollution control requirements." 42 U.S.C. 7403(g) (emphasis added). Likewise, section 602(e) directs EPA to "publish the global warming potential" of ozone-depleting substances designated for phase-out under the Act, and then states that "[t]he *preceding sentence* shall not be construed to be the basis of any additional regulation under this chapter." 42 U.S.C. 7671a(e) (emphasis added). Neither of these provisions utters a peep about section 202(a)(1).

[13] *See* National Climate Program Act of 1978, Pub. L. No. 95-367, 92 Stat. 601 (establishing a program to assist the nation in understanding and responding to climate change); Global Climate Protection Act of 1987, Pub. L. No. 100-204, Title XI, 101 Stat. 1331

called for further research and other "nonregulatory" measures, EPA concluded that these enactments demonstrate that Congress meant to withhold from EPA regulatory authority to address climate change. Pet. App. A74-A75. Once again, however, EPA did not—and, given the content of these statutes, could not—claim that these enactments erased its existing authority to regulate "air pollutants."[14]

In trying to snuff meaning out of 1970s legislation based on legislation of the 1980s and 1990s, EPA struggles uphill against the "cardinal rule . . . that repeals by implication are not favored." *Cook County, Ill. v. United States ex rel. Chandler*, 538 U.S. 119, 132 (2003) (quoting *Posadas v. Nat'l City Bank*, 296 U.S. 497, 503 (1936)). This is a venerable rule: this Court long ago declared that "[w]here the powers or directions under several acts are such as may well subsist together, an implication of repeal cannot be allowed." *In re Henderson's Tobacco*, 78 U.S. 652, 657 (1870). There being no inconsistency between the legislation cited by EPA and the clear application of section 202(a)(1) to air pollutants associated with climate change, it was error for EPA to find an implicit repeal of the latter in the former.

(requiring the President to develop a national policy on climate change); Global Change Research Act of 1990, Pub. L. No. 101-606, 104 Stat. 3096 (authorizing a comprehensive research effort); Food, Agriculture, Conservation and Trade Act of 1990, Pub. L. No. 101-624, Title XXIV, 104 Stat. 3359 (establishing a program to coordinate climate change research and policy within the Department of Agriculture); Energy Policy Act of 1992, Pub. L. No. 102-486, Title XVI, 106 Stat. 2776 (calling for an assessment of the feasibility of reducing greenhouse gases and creating a national inventory and voluntary reporting of greenhouse gas emissions).

[14] EPA's citation to congressional actions pertaining to climate treaty negotiations in the 1990s, Pet. App. A75, draws us even farther away from the meaning of the Clean Air Act provisions enacted in the 1970s. These actions did not mention, let alone limit, existing domestic regulatory authority. *See* 105 S. Res. 98, Rep. No. 105-54; Pub. L. No. 105-276, 112 Stat. 2461 (1998).

EPA's aim in citing the above "indicia of congressional intent"—failed proposals, and legislation enacted after the statutory text at issue here was in place—was to show that Congress intended to "learn more about the global climate change issue before specifically authorizing regulation to address it . . . ." Pet. App. A75. Apart from the problems already discussed, there are additional flaws in EPA's analysis.

First, EPA has ignored the fact that numerous provisions of the Clean Air Act have *explicitly* required EPA or other entities to "learn more about" an environmental issue and to report back to Congress with recommendations for legislation. *See, e.g.*, 42 U.S.C. 7412(f)(1)-(2) (requiring report to Congress on program regulating hazardous air pollutants, and contemplating further agency action only in the event Congress does not act on agency recommendations); 7412(r)(6) (directing Chemical Safety Board to report to Congress on accidental hazardous releases and to make recommendations). In addition, before the Motor Vehicle Air Pollution Control Act of 1965 created the first federal regulatory program for motor vehicle emissions, Congress had twice directed first the Surgeon General, and then the Secretary of Health and Human Welfare, to conduct research on the consequences of air pollution from motor vehicles and to report back to it with recommendations for legislation on the subject. Pub. L. No. 86-493, 74 Stat. 162 (1960); Pub. L. No. 88-206, 77 Stat. 392 (1963). If, in section 202(a)(1) of the Act, Congress had really wanted to create the kind of nonregulatory, report-and-wait program EPA envisions, it could easily have replicated the language of these other provisions, and tailored it to the issue of climate change. It did not do this.

Second, EPA's implicit suggestion that ongoing investigation cannot coexist with regulation is a frontal assault on a core tenet of the Act. Section 202 and other key sections of the Act call for EPA to take regulatory action against dangers to public health and welfare even when some scientific uncertainty remains. In light of this, simultaneous

regulation and further study is not incompatible; rather, it is the norm that Congress established under the Act. Research and regulation walk hand in hand under the Act, and thus calls by Congress for more research on a topic have naturally been paired with commands for regulation. *See, e.g.*, 42 U.S.C. 7409(a), (d) (providing for establishment of NAAQS and continuing research on the scientific basis of the standards); 42 U.S.C. 7412(d), (f)(1) (providing for technology-based regulation of hazardous air pollutants and continuing research into adequacy of this regulation in protecting public health); 42 U.S.C. 7521(a), 7548 (calling for regulation of air pollution from motor vehicles and study of effects on public health and welfare of particulate matter emissions from motor vehicles).

A third problem with EPA's mode of analysis is the idea that Congress must "*specifically* authoriz[e]" (Pet. App. A75 (emphasis added)) a regulatory program before EPA may act. This notion is at odds with the system created by the Clean Air Act. What EPA seems to mean is that Congress must say the words "carbon dioxide" or "greenhouse gases" in specific regulatory provisions of the Act before a regulatory program addressing these matters may be developed. This is not the way the statute works.[15] On the contrary, the Act does not attempt, in advance, to identify all of the possible targets of regulatory activity. Even where Congress has painstakingly listed pollutants to be regulated, it has also recognized that further research may identify additional harmful pollutants

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[15] Nor is it the way most statutes work. *See, e.g., Pub. Citizen v. U.S. Dept. of Justice*, 491 U.S. 440, 475 (1989) (Kennedy, J., dissenting) (Congress "usually does not legislate by specifying examples, but by identifying broad and general principles that must be applied to particular factual instances"). In fact, this Court has consistently held that an agency may regulate a new subject matter in the absence of proof of specific congressional attention directed at the particular problem. *See, e.g., Diamond v. Chakrabarty*, 447 U.S. 303, 314-315 (1980) (rejecting argument that because genetic technology was unforeseen when broad patent statute was enacted, micro-organisms could not be patented until Congress expressly authorized it).

that should be brought into the regulatory fold. *See, e.g.*, 42 U.S.C. 7412(b)(1) (listing nearly 200 hazardous air pollutants to be regulated), 7412(b)(2) and (3)(B) (making way for additions to the list). In many other cases, Congress has identified the targets of regulation in general terms, leaving the details to be filled in by EPA. *See, e.g.*, 42 U.S.C. 7408(a) (criteria air pollutants); 7411(b)(1)(A) (stationary sources subject to New Source Performance Standards); 7545(c) (fuels and fuel additives).

One famous example of this framework in operation is EPA's reduction of the lead content of gasoline. The 1970 version of section 211 of the Clean Air Act authorized the Administrator to "control or prohibit the manufacture, introduction into commerce, offering for sale, or sale of any fuel or fuel additive for use in a motor vehicle or motor vehicle engine (A) if any emission products of such fuel or fuel additive will endanger the public health or welfare . . . ." Pub.L. No. 91-604, 84 Stat. 1676, § 211(c)(1). This provision did not mention the fuel additive lead. Despite the Act's lack of an explicit reference to leaded gasoline, EPA in 1973 ordered a dramatic reduction in the lead content of gasoline. 38 Fed. Reg. 33734 (1973). The agency later ordered still steeper reductions. 50 Fed. Reg. 9386 (1985). The decisions to phase down lead in gasoline were based on broadly worded statutory language that did not specifically grant EPA authority to regulate lead in gasoline. The decisions were also economically and politically momentous. Based on the interpretive method EPA offers for this case, the lead phase-down would have been doomed from the get-go.

2. In disclaiming authority to regulate air pollutants associated with climate change, EPA also pointed to two important programs under the Clean Air Act which the agency said would fit so uneasily with regulation of these pollutants that Congress could not have intended these pollutants to be regulated at all. These claims are meritless.

EPA asserted, first, that Congress's enactment in 1990 of Title VI of the Act (42 U.S.C. 7671-7671q), which regulates

chemicals that threaten the stratospheric ozone layer, "cautions against construing [the Act's] provisions to authorize regulation of emissions that may contribute to global climate change." Pet. App. A71. EPA stated that the enactment of Title VI "demonstrate[s] that Congress has understood the need for specially tailored solutions to global atmospheric issues." *Ibid.* Once again, EPA is seeking to use provisions enacted in 1990 to discern—and to limit—the meaning of provisions enacted in the 1970s. Moreover, EPA has used the very statutory program under discussion here—relating to stratospheric ozone depletion—as a basis for regulating air pollutants associated with climate change. *See* pages 33-34, *infra*.

In any event, EPA cannot seriously maintain that "coordination with the international community" is a prerequisite for regulating pollutants that "are emitted around the world and are very long-lived," the consequences of which "occur on a global scale." *Id.* at A71-A72. Congress directed EPA to regulate ozone-depleting substances themselves without awaiting such coordination.[16] In addition, EPA has recently issued a rule regulating mercury emissions. 70 Fed. Reg. 28606 (2005). Mercury is (to use EPA's words in describing greenhouse gases and ozone-depleting substances) a pollutant "emitted around the world" that is "very long-lived," and exerts effects "on a global scale." *See* 70 Fed. Reg. 15994, 16011, 16012 (2005) (mercury is "persistent," and there exists a "global [mercury] cycle").[17] Even so, the agency has not made domestic regulation of mercury await "coordination with the international community."

EPA's claim based on the NAAQS program is equally unsound. EPA concluded that the NAAQS system, created by sections 108-110 of the Act, 42 U.S.C. 7408-7410, is

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[16] Pub. L. No. 95-95, 91 Stat. 685, § 126 (1977); 42 U.S.C. 7426.

[17] EPA has estimated that roughly 40 percent of the mercury deposited in the United States comes from sources in other countries. 65 Fed. Reg. 79825, 79827 (2000).

"fundamentally ill-suited to addressing [greenhouse] gases in relation to global climate change," and on this basis asserted that Congress did not intend EPA to regulate these pollutants under any part of the Act, including section 202. Pet. App. A73. EPA's move is a classic debater's trick: when you're losing the argument, change the subject.

The NAAQS program is an entirely separate program from the mobile source program at issue in this case. Nothing in the Act suggests that regulation under the mobile source program must stand or fall with regulation under the NAAQS program. The federal program for controlling air pollution from motor vehicles was first created in 1965, five years before the 1970 Act created the NAAQS program. The programs were not merged, and they retain significant independent status and effects. Organizationally, mobile sources are regulated under Title II of the Act, which is separate from Title I, concerning the NAAQS.[18] Moreover, while the federal government sets the NAAQS, the States are primarily responsible for implementing them, *see, e.g., Whitman v. American Trucking Ass'ns*, 531 U.S. 457, 470 (2001), whereas the federal government sets the emission standards for mobile sources, and states have a more circumscribed role (with the exception that California may set its own standards, subject to certain constraints). 42 U.S.C. 7543(a), (b). Furthermore, the two programs cover different pollutants. For example, benzene and formaldehyde must be regulated under the mobile source program, 42 U.S.C. 7521(*l*)(2), but they are not regulated under the NAAQS program.

The NAAQS program and the mobile source program are also initiated by different regulatory triggers. Regulation of mobile sources is triggered under section 202(a)(1) by a determination that air pollution from motor vehicles "may reasonably be anticipated to endanger public health or

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[18] *Cf. Whitman v. American Trucking Ass'ns*, 531 U.S. 457, 468 (2001) ("[t]he NAAQS . . . are the engine that drives nearly all of *Title I* of the CAA . . . .") (emphasis added).

welfare." 42 U.S.C. 7521(a)(1). Although an endangerment decision of this kind is also a prerequisite to regulation under the NAAQS program, *see* 42 U.S.C. 7408(a)(1)(A), the NAAQS provision includes additional triggering language as well. *See, e.g.*, 42 U.S.C. 7408(a)(1) (requiring the Administrator to list new pollutants "for which he plans to issue air quality criteria"). Whether this provision would allow EPA to decline to set NAAQS for those substances it considers "ill-suited" to the program is not, however, before this Court.[19]

Whatever question exists about the applicability of the NAAQS program to the air pollutants at issue here cannot excuse the failure to adopt emission standards under section 202. Section 202 *does* provide a perfectly feasible mechanism for regulating emission of these pollutants from motor vehicles: the establishment of the same sort of limits on these pollutants that EPA has already imposed on pollutants such as carbon monoxide and hydrocarbons.

3. EPA also asserted that Congress has not authorized the agency to set standards for carbon dioxide emissions from motor vehicles to the extent that such standards would regulate fuel economy because such regulation would be inconsistent with the Energy Policy and Conservation Act (EPCA), 49 U.S.C. 32901-32919. Pet. App. A79-A80. EPCA,

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[19] Nor has EPA demonstrated that it would be unworkable to apply the NAAQS to emissions of the chemicals at issue here. In other contexts, EPA has worked to craft implementation programs for long-range, troublesome pollutants such as ozone, assigning each state its fair share of reductions. *See, e.g., West Virginia v. EPA*, 362 F.3d 861 (D.C. Cir. 2004) (upholding regional program to address interstate ozone problems). Even if States were unable to devise implementation plans to achieve full compliance with NAAQS for the chemicals at issue here, should such NAAQS ever be set, this would not be an absurd result or one that ran counter to the purpose of the Act; it would at most be an *incomplete* result. In fact, Congress expressly recognized that there may be situations where a NAAQS cannot be attained due to emissions from foreign sources. 42 U.S.C. 7509a.

administered by the National Highway Traffic Safety Administration (NHTSA),[20] sets minimum corporate average fuel economy standards (or "CAFE" standards) for automobiles.[21] *See* 49 U.S.C. 32901-32919. EPA claimed that the only practical way to reduce carbon dioxide emissions from vehicles is to improve fuel economy, and that the care Congress exercised in creating a system for regulating fuel economy in EPCA demonstrated that EPCA was meant to be the only statutory vehicle for doing so. Pet. App. A79-A80. Here, EPA fundamentally misread the Clean Air Act and EPCA, and again violated sound principles of statutory interpretation.

The relevant provisions of EPCA and the Clean Air Act have fundamentally different purposes. EPCA's provisions were passed to promote energy efficiency, 42 U.S.C. 6201(5); the Clean Air Act provisions were passed to protect public health and welfare, 42 U.S.C. 7521(a)(1). The fact that in EPCA Congress created a system to strike a particular balance between energy conservation and other considerations has no bearing on the balance that Congress intended the EPA Administrator to strike if, in his judgment, he determined that carbon dioxide emissions from vehicles were endangering public health and welfare.

EPA's argument is premised on the assumption that the two provisions are inconsistent. They are not. While the two statutes may overlap, they are not irreconcilable, and manufacturers will be able to continue to comply with both statutes, as they have for decades. Regulatory overlap is common. *FTC v. Ken Roberts, Co.*, 276 F.3d 583, 593 (D.C. Cir. 2001) ("we live in 'an age of overlapping and concurring regulatory jurisdiction'") (quoting *Thompson Med. Co. v. FTC*,

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[20] The Secretary of Transportation has delegated his responsibilities under EPCA to NHTSA. 49 C.F.R. 1.50(f).

[21] EPCA's fuel economy standards do not apply to other vehicles, such as heavy-duty trucks and motorcycles, 49 U.S.C. 32901(a)(3)(B), 32902(a), (b), and EPA did not argue that EPCA affects the agency's authority to regulate methane, nitrous oxide, or hydrofluorocarbons.

791 F.2d 189, 192 (D.C. Cir. 1986)). In cases of alleged conflict between two statutes, this Court has consistently held that both must be given effect wherever possible: "The courts are not at liberty to pick and choose among congressional enactments, and when two statutes are capable of co-existence, it is the duty of the courts, absent a clearly expressed congressional intention to the contrary, to regard each as effective." *Morton v. Mancari*, 417 U.S. 535, 551 (1974); *see also, e.g., J.E.M. AG Supply, Inc. v. Pioneer*, 534 U.S. 124, 143-44 (2001).

To be sure, many technologies employed to reduce carbon dioxide emissions may well result in consuming less fuel per mile of travel. These overlapping impacts are not inconsistent because the standards set pursuant to both Acts are minimum standards. *See* 42 U.S.C. 7521(a)(1); 49 U.S.C. 32901(a)(6), 32902. Because both statutes set minimum standards, an automobile manufacturer's compliance with one statute does not interfere with its compliance with the other.

Because of these potentially overlapping effects, the Clean Air Act and EPCA do refer to each other, but none of these cross-references limits EPA's authority; indeed, the two statutes reinforce each other. EPCA provides that when setting new fuel efficiency standards, NHTSA must take into account "the effect of other motor vehicle standards of the Government on fuel economy," 49 U.S.C. 32902(f), which include emissions standards under the Clean Air Act. Similarly, the Clean Air Act allows automobile manufacturers a limited waiver of certain emission standards for oxides of nitrogen if it would, among other things, enable greater fuel economy. *See* 42 U.S.C. 7521(b)(3)(C).[22] Far from being irreconcilable, therefore, these two statutes each recognize the goals and authority of the other. Congress expressly acknowledged that EPA is authorized under the Clean Air Act to set motor vehicle emission standards that could affect fuel

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[22] Congress inadvertently included two subsections denominated "(b)(3)" in section 202. This provision is in the second of those.

economy, both positively and negatively.[23] Nothing in EPCA limits the circumstances under which EPA may set motor vehicle emission standards for air pollutants that cause or contribute to endangerment of the public health or welfare, just as nothing in the Clean Air Act undoes NHTSA's authority to address fuel efficiency.

C. EPA's interpretation deserves no deference.

Deference to EPA's interpretation is appropriate only if the statutory text is ambiguous and the interpretation is reasonable. *Chevron*, 467 U.S. at 842-844. As explained, the text is unambiguous. Even if it were not, however, EPA's interpretation deserves no deference because it is arbitrary and capricious. *Id.* at 844.

Making up one's mind first and then looking for reasons to support one's decision is the very soul of arbitrariness. Here, EPA backed into its conclusion that carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons are not "air pollution agents" within the meaning of the Act by first reaching its substantive bottom line and then forcing that conclusion into the statutory text:

> . . . We thus conclude that the CAA does not authorize regulation to address concerns about global climate change.
>
> *It follows from this conclusion,* that GHGs, as such, are not air pollutants under the CAA's regulatory provisions, including sections 108, 109, 111, 112 and 202. . . . *Because EPA lacks CAA regulatory authority to address global climate change, the term 'air pollution' as used in the regulatory*

[23] This is also acknowledged in legislative history. For example, the House Report on the 1977 Clean Air Act Amendments relied on a National Academy of Sciences report that noted approvingly that some emission standards could assist in improving fuel economy and that "engine technologies which simultaneously reduce emissions and fuel consumption can and should be pursued." H.R. Rep. No. 95-294, at 247.

> *provisions cannot be interpreted to encompass global climate change*. Thus, CO_2 and other GHGs are not 'agents' of air pollution and do not satisfy the CAA section 302(g) definition of 'air pollutant' for purposes of those provisions.

Pet. App. A78 (emphasis added). If this is the way statutory interpretation works, EPA could also have declared that automobiles emitting carbon dioxide and other air pollutants associated with climate change are not "motor vehicles" within the meaning of the Act when they are emitting those chemicals. Once interpretation is unmoored from statutory language, as EPA has done, one can, like Humpty Dumpty, use words to mean whatever the user chooses them to mean.

EPA's decisionmaking regarding air pollutants associated with climate change is also capricious. EPA does not consistently apply the definition of "air pollutants" and "air pollution" it offers here. Indeed, EPA has regulated—as "air pollutants"—most of the chemicals at issue here. For example, the agency is requiring the monitoring of carbon dioxide emissions from nonroad equipment pursuant to section 103(a), 42 U.S.C. 7403(a), which authorizes research into "air pollution." 69 Fed. Reg. 12151 (2004).

In addition, EPA considers the global warming potential of proposed substitutes for ozone-depleting substances in evaluating those substitutes under provisions of the Clean Air Act addressing stratospheric ozone depletion. 59 Fed. Reg. 13044, 13049 (1994). EPA has ruled that the use of two hydrofluorocarbons[24] (HFC-134a and HFC-152a) in self-chilling cans is an unacceptable substitute for ozone-depleting substances, based entirely on these chemicals' global warming potential. 64 Fed. Reg. 10374, 10375 (1999); *see also, e.g.*, 64 Fed. Reg. 22982, 22984 (1999) (listing another substitute as unacceptable based in part on global warming potential). Section 618 of the Act specifically provides that requirements

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[24] Hydrofluorocarbons are among the chemicals petitioners asked EPA to regulate.

concerning stratospheric ozone depletion are "requirements for the control and abatement of *air pollution*" within the meaning of sections 116 and 118 of the Act. 42 U.S.C. 7671q (emphasis added). EPA's assertion that "the term 'air pollution' as used in the regulatory provisions cannot be interpreted to encompass global climate change," Pet. App. A78, cannot be squared with its regulatory actions with respect to substitutes for ozone-depleting substances.

In addition, ten years ago, EPA added municipal solid waste landfills to the list of sources to be regulated under the Clean Air Act based on the Administrator's determination that these landfills met section 111's standard of endangerment. 61 Fed. Reg. 9905, 9905 (1996) (applying section 7411(b)(1)(A)). EPA included methane within "the emissions of concern" emanating from landfills, explaining: "Methane emissions *contribute to global climate change* and can result in fires or explosions when they accumulate in structures on or off the landfill site."[25] *Id.* at 9905 (emphasis added). Yet methane is one of the chemicals EPA has now said is not an "air pollutant" under the Act.

Thus, EPA regulates air pollutants associated with climate change as "air pollutants" under the Clean Air Act. It sometimes even does so *because* they are implicated in climate change. The agency was incorrect, therefore, when it stated that "GHGs are not 'agents' of air pollution and do not satisfy the CAA section 302(g) definition of 'air pollutant' for purposes of [the Act's regulatory] provisions." Pet. App. A78. What EPA should have said was that it will let us know when these chemicals are "air pollutants," and when they are not, based not upon the statutory text but upon the agency's own

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[25] *See also* 63 Fed. Reg. 6426, 6454 (1998) ("The primary source of air pollution from landfills is due to the microbial breakdown of organic wastes from within the landfill. Landfills are known to be major sources of greenhouse gas emissions such as methane and carbon dioxide. These emissions are now regulated under the Clean Air Act as a result of the landfill New Source Performance Standards and Emissions Guidelines, promulgated by EPA on March 12, 1996.").

unpredictable amendments to the statutory text. This is not statutory adherence; it is statutory adhocism.

Even if the statutory language were ambiguous, which it is not, the ad-libbed interpretation EPA has offered in this case deserves no deference from this Court.

II. EPA MAY NOT DECLINE TO ISSUE EMISSION STANDARDS FOR MOTOR VEHICLES BASED ON POLICY CONSIDERATIONS NOT ENUMERATED IN SECTION 202(a)(1) OF THE CLEAN AIR ACT.

EPA's second legal error was to conclude that it could decline under section 202(a)(1) to regulate air pollutants associated with climate change on the basis of factors not enumerated in that provision. Even when an agency is declining to regulate, it may not depart from the unambiguous language of the statute in making its decision. *See, e.g., General Motors Corp. v. NHTSA*, 898 F.2d 165, 169-170 (D.C. Cir. 1990) (judicial review of denial of rulemaking petition is "guided by *Chevron* analysis").

A. The only relevant factor under section 202(a)(1) is whether air pollution from motor vehicles "may reasonably be anticipated to endanger public health or welfare."

The basic aim of the Clean Air Act is "to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population." 42 U.S.C. 7401(b). Thus, the trigger for much of the regulatory action that occurs under the Act is the endangerment of public health or welfare. For example, regulation of stationary sources such as factories and power plants (42 U.S.C. 7411(b)(1)(A)) and fuels and fuel additives (42 U.S.C. 7545(c)(1)) is triggered by a conclusion that air pollution from these sources "may reasonably be anticipated to endanger public health or welfare." Under the

Act's regulatory programs, myriad other factors (such as economic and technological feasibility) come into play in implementation, *see, e.g.*, 42 U.S.C. 7411(a)(1), but the initial stimulus for regulatory action is health- and welfare-based.

Section 202 of the Clean Air Act has the same structure. Section 202(a)(1) creates the "trigger" for regulatory action on pollution from motor vehicles. Section 202(a)(1) directs the EPA Administrator's attention to the question whether, "in his judgment," new motor vehicles or new motor vehicle engines "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. 7521(a)(1). The statute states that the Administrator "shall" regulate air pollutants satisfying this criterion.

The other step in regulating air pollution from motor vehicles involves deciding exactly what the regulatory standard for the pollutant(s) in question should be, and when the standard should become effective. The bulk of section 202 is concerned with these kinds of questions. At that stage of regulatory decisionmaking, a range of factors beyond "endangerment" are relevant, including the time needed "to permit the development and application of the requisite technology," taking compliance costs into account, 42 U.S.C. 7521(a)(2), and the existence of "an unreasonable risk to public health, welfare, or safety" due to the "operation or function" of an emission control "device, system, or element of design," 42 U.S.C. 7521(a)(4)(A).

If any doubt remained as to whether Congress's singular focus on endangerment in section 202(a)(1) was intentional, perusal of other provisions in the Clean Air Act confirms that Congress carefully specified which factors are relevant, and which are not, to various agency decisions under the Act.[26] In

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[26] *See, e.g.*, 42 U.S.C. 7545(c)(2)(B) (Administrator may not regulate fuel additive on account of its harm to vehicle emission control systems unless it first does cost-benefit analysis of such regulation); 42 U.S.C. 7411(a)(1), (b)(1) (for certain categories of new sources, Administrator must set "standards of performance," which take into

some cases, Congress explicitly allowed the agency to range beyond specifically enumerated factors, by winding up a list of statutorily relevant factors with open-ended language such as "among other factors," *see, e.g.*, 42 U.S.C. 7411(d)(2)(B), 7411(j)(1)(A)(iv), or "and other relevant factors," *see, e.g.*, 42 U.S.C. 7412(a)(1), 7412(f)(2)(A). Congress included no such unstructured authority in section 202(a)(1).

This Court has made plain that the courts' role in statutory interpretation begins, and often ends, with the statute's language. *See, e.g., Consumer Product Safety Comm'n v. GTE Sylvania, Inc.*, 447 U.S. 102, 108 (1980) (speaking for a unanimous Court, Justice Rehnquist observed: "[T]he starting point for interpreting a statute is the language of the statute itself. Absent a clearly expressed legislative intention to the contrary, that language must ordinarily be regarded as conclusive."). In trying to discern a statute's meaning, the Court has found it helpful—often decisive—to compare the language of the statutory provision in question with language found elsewhere in the statute: "Where Congress includes particular language in one section of a statute but omits it in another section of the same Act, it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion." *Russello v. United States*, 464 U.S. 16, 23 (1983) (quoting *United States v. Wong Kim Bo*, 472 F.2d 720, 722 (5th Cir. 1972)).[27]

These principles are a hallmark of this Court's jurisprudence under the Clean Air Act. Where Congress has listed certain factors as relevant in one part of the Act, and not in another, this Court has consistently respected this

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account cost and "any nonair quality health and environmental impact and energy requirements").

[27] *See also, e.g., Jama v. Immigration & Customs Enforcement*, 543 U.S. 335, 341 (2005) ("We do not lightly assume that Congress has omitted from its adopted text requirements that it nonetheless intends to apply, and our reluctance is even greater when Congress has shown elsewhere in the same statute that it knows how to make such a requirement manifest.").

legislative choice. For example, in *Whitman v. American Trucking Ass'ns*, this Court held that the absence of any reference to costs in the provision specifying the criteria for NAAQS, 42 U.S.C. 7409(b)(1), and the numerous references to costs in other provisions of the Act, plainly precluded consideration of costs in setting the NAAQS. 531 U.S. at 465-468. In so ruling, the Court relied on *Union Elec. Co. v. EPA*, 427 U.S. 246 (1976), where the Court had similarly held that where Congress identifies the factors an agency must consider in decisionmaking, the agency is not free to stray and consider additional factors of its choosing. *See id.* at 256-266 (EPA may not consider economic and technological infeasibility in deciding whether to approve States' plans for implementing the NAAQS). *See also General Motors Corp. v. United States*, 496 U.S. 530, 538 (1990) (in holding that the four-month time limit for EPA review of an original state implementation plan did not apply to plan revisions, Court observed: "[s]ince the statutory language does not expressly impose a 4-month deadline and Congress expressly included other deadlines in the statute, it seems likely that Congress acted intentionally in omitting the 4-month deadline" in the provision at issue).

In this case, EPA, along with the lead opinion in the D.C. Circuit, strayed from this well-marked path. The agency thought that it could decline to regulate emissions from new motor vehicles under section 202(a)(1) by invoking a mélange of factors not mentioned in that provision. Not so. An administrative agency cannot rest its decisions "on factors which Congress has not intended it to consider." *Motor Vehicle Mfrs. Ass'n of the U.S. v. State Farm Mut. Auto Ins. Co.*, 463 U.S. 29, 43 (1983). The provision under which EPA made its decision, section 202(a)(1) of the Clean Air Act, is crystalline: EPA is to decide whether to regulate an air pollutant emitted by motor vehicles on the basis of its judgment as to whether public health or welfare may reasonably be anticipated to be endangered by the pollution, not the grab bag of considerations EPA invoked in this case.

B. The policy judgments EPA cited in refusing to regulate air pollutants associated with climate change were irrelevant under section 202(a)(1) or failed to take account of the statutory endangerment standard.

Even if section 202(a)(1) did not so plainly rule out consideration of factors other than endangerment in the initial decision whether to regulate emissions from motor vehicles, the text and structure of the Clean Air Act make clear that three of the specific factors EPA did consider are irrelevant under this provision. EPA could appropriately consider a fourth factor, scientific uncertainty, but the agency failed to relate that factor to the statutory standard of endangerment.

EPA expressed concern that regulation under section 202(a)(1) would "result in an inefficient, piecemeal approach to addressing the climate change issue." Pet. App. A85. Section 202(a)(1) itself, however, embraces the very kind of approach EPA criticizes. It directs EPA to regulate motor vehicle emissions that "cause, or *contribute to*" air pollution that passes the endangerment threshold. 42 U.S.C. 7521(a)(1) (emphasis added). Congress used the same phrasing in directing EPA to set other standards under the Act. *See, e.g.*, 42 U.S.C. 7411(b)(1)(A) (stationary sources); 7545(c)(1) (fuels and fuel additives). Clearly, the Act endorses incremental responses to air pollution problems, rather than necessarily requiring all-encompassing solutions. EPA is free to propose a comprehensive solution to the problem of climate change if it wishes to do so, but it is not free to reject the approach Congress explicitly set forth in section 202(a)(1).[28]

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[28] In addition, as a factual matter, it is hard to credit EPA's characterization of the approach it opposes as "piecemeal." Repeating the legal conclusion first announced in the decision at issue here, EPA has also refused to regulate carbon dioxide emissions from power plants and other stationary sources. 71 Fed. Reg. 9866, 9869 (2006). Together, mobile sources and power plants are responsible for more than 60 percent of the carbon dioxide emissions inventory in this country. *See* Energy Information

The same observation applies to EPA's suggestion that reduction of air pollutants associated with climate change in this country might be offset by increases of such air pollutants in other countries, and thus "climate change raises important foreign policy issues" which "it is the President's prerogative to address." Pet. App. A86. In enacting section 202(a)(1), Congress was clearly aware that emissions from mobile sources might not be the sole cause of an air pollution problem, yet it directed EPA to regulate even when they "contribute to" such a problem.[29] In other provisions of the Act, moreover, Congress specifically directed EPA to consider "emissions emanating from outside of the United States" in making regulatory decisions. *See* 42 U.S.C. 7509a; *see also* 7513(e). Congress gave no such direction to EPA in section 202(a)(1).[30]

EPA also expressed concern that technologies might not be available to control air pollutants associated with climate change emitted by motor vehicles. Pet. App. A87. This is, however, plainly not relevant to deciding whether the endangerment standard of section 202(a)(1) is met. As detailed in the previous section, the remainder of section 202 *does* direct EPA's attention to the availability of technology, but only once the agency has found endangerment.

Administration, Emissions of Greenhouse Gases in the United States 2004 at 22 (Dec. 2005) (describing carbon dioxide emissions of transportation and electric power sectors), available at http://www.eia.doe.gov/oiaf/1605/ggrpt.

[29] Tellingly, EPA has regulated mercury, a global pollutant, under the Act, *see* 70 Fed. Reg. 28606 (2005), despite the possibility that domestic reductions will be offset by increased emissions elsewhere.

[30] To the extent EPA hopes, with a glancing reference to "foreign policy issues" and "the President's prerogative," Pet. App. A86, to convince this Court to override the plain statutory text, its hope must prove forlorn. No principle of statutory construction or of constitutional law permits such an aggrandizement of executive authority.

The one factor mentioned by EPA that has anything to do with the endangerment standard of section 202(a)(1) is scientific uncertainty. However, as the lead opinion below expressly found, EPA did not rely solely on uncertainty in coming to its decision. Pet. App. A14-A15. Instead, it relied on uncertainty in combination with the other factors clearly having no relevance to the endangerment decision under section 202(a)(1). *Id.* at A82-A87. The consideration of statutorily excluded factors taints EPA's entire decision; we cannot know what EPA would have done if it had exercised its judgment in light of the only legally relevant consideration—endangerment of public health or welfare—and this Court cannot supply an answer EPA itself did not give. *See, e.g., SEC v. Chenery Corp.*, 318 U.S. 80, 93-95 (1943); *State Farm*, 463 U.S. at 57.

Moreover, EPA failed to relate its discussion of scientific uncertainty to the statutory standard of endangerment. The existence of uncertainty is not a bar to regulation or an excuse for inaction.[31] An agency cannot defer action "while it awaits the Godot of scientific certainty." *Pub. Citizen Health Research Group v. Chao*, 314 F.3d 143, 156 (3d Cir. 2002) (Becker, J.) (quoting *United Steelworkers of America v. Marshall*, 647 F.2d 1189, 1266 (D.C. Cir. 1980)). Congress underscored this point in 1977 by amending section 202(a)(1) (and other key regulatory provisions of the Act) to require the Administrator to regulate emissions from motor vehicles which "in his judgment cause, or contribute to, air pollution which *may reasonably be anticipated* to endanger public health or welfare." Pub. L. No. 95-95, § 401, 91 Stat. 685, 791 (1977) (emphasis added); *see also Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d 506, 514 n. 12 (D.C. Cir. 1983) (discussing 42

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[31] *Cf. Indus. Union Dep't, AFL-CIO v. Am. Petroleum Inst.*, 448 U.S. 607, 656 (1980) (plurality opinion) (stating that, in setting workplace standards for toxic substances, Occupational Safety and Health Administration was "not required to support its finding that a significant risk exists with anything approaching scientific certainty").

U.S.C. 7545(c)(1)). Previously, the Act had set regulation in motion based on the Administrator's judgment that any air pollutant from motor vehicles "causes or contributes to, or is likely to cause or contribute to, air pollution which endangers the public health or welfare." Pub. L. No. 91-604, § 6(a), 84 Stat. 1676, 1690 (1970). The textual change, from "endangers" to "may reasonably be anticipated to endanger," plainly signals that regulation of new motor vehicles is not to be eschewed merely because the relevant science is uncertain.[32]

EPA did not come close to applying this standard correctly in this case. EPA did not seriously engage with the scientific evidence indicating that the pollutants at issue here are changing the earth's climate, causing destructive present effects and laying the groundwork for even worse future ones.[33] Instead, EPA made do with a staccato listing of remaining uncertainties with respect to climate change. Pet. App. A82-A85. The centerpiece of its discussion was the 2001 National Research Council Report on climate change (issued after the comment period closed), from which EPA plucked the choicest concessions to scientific uncertainty. Yet nowhere did EPA address the overall thrust of the Report, which confirmed the scientific community's "current thinking" that "most of the observed warming of the last 50 years is likely to have been due to the increase in greenhouse

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[32] In *Ethyl Corp. v. EPA*, 541 F.2d 1, 25 (D.C. Cir. 1976) (*en banc*), the court held that the earlier endangerment standard authorized "regulatory action to prevent harm, even if the regulator is less than certain that harm is otherwise inevitable." In 1977, Congress amended section 202(a)(1) "to support the views expressed" in *Ethyl*. H.R. Rep. 95-294 at 49. Specifically, "[i]n order to emphasize the precautionary or preventive purpose of the act (and, therefore, the Administrator's duty to assess risks rather than wait for proof of actual harm), the committee not only retained the concept of endangerment to health; the committee also added the words 'may reasonably be anticipated.'" *Id.* at 51.

[33] For detailed discussion of this evidence, see Brief of Amici Curiae Climate Scientists David Battisti, *et al.*

gas concentrations," that the accumulation of greenhouse gases is due to "human activities," and that "*[d]espite the uncertainties*, there is general agreement that the observed warming is real and particularly strong within the last 20 years." J.A. 151, 157, 158 (emphasis added). Imagine describing the scientific evidence of the risks of smoking by referring solely to language qualifying the conclusions in the Surgeon General's Reports on smoking and health, and excluding discussion of the evidence that smoking causes human disease. That is what EPA's discussion of the science of climate change is like.

Even with respect to the one factor relevant to determinations under section 202(a)(1), therefore, EPA blundered. Mere incantation of the words "scientific uncertainty," paired with terse and selective references to the state of the science, is not a substitute for the mature scientific inquiry plainly contemplated by section 202(a)(1).[34] Whether air pollutants associated with climate change may be reasonably anticipated to endanger public health or welfare "is a matter for the agency to decide, but it must bring its expertise to bear on the question." *State Farm*, 463 U.S. at 54.

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[34] Of course, as Judge Tatel recognized, if scientific uncertainty was sufficient to prevent the Administrator from making a credible finding either of endangerment or non-endangerment, EPA could lawfully decline to regulate. Pet. App. A46, A48-A49 ("If the Administrator concludes based on substantial evidence that more research is needed before he can judge whether GHGs may reasonably be anticipated to endanger welfare, then he has discretion to hold off making a finding. . . . In short, EPA may withhold an endangerment finding only if it needs more information to determine whether the statutory standard has been met."). Here, however, the agency declined to regulate based on policy reasons; it never claimed that scientific uncertainty prevented it from determining whether the endangerment threshold had been crossed. *Id.* at A50 ("EPA never suggests that the uncertainties identified by the NRC Report prevent it from determining that GHGs 'may reasonably be anticipated to endanger' welfare.").

EPA's mistaken legal judgment about the requirements of section 202(a)(1) led it far afield from this basic principle.

C. Section 202(a)(1)'s reference to the Administrator's "judgment" does not give the Administrator unfettered discretion in deciding whether to regulate air pollution from motor vehicles.

In the crucial passage in his opinion announcing the judgment of the court of appeals, Judge Randolph found that the word "judgment" in section 202(a)(1) gave EPA the kind of discretion normally reserved for legislatures:

> In requiring the EPA Administrator to make a threshold "judgment" about whether to regulate, § 202(a)(1) gives the Administrator considerable discretion. Congress does not require the Administrator to exercise his discretion solely on the basis of his assessment of scientific evidence. What the *Ethyl* court called "policy judgments" also may be taken into account. By this the court meant the sort of policy judgments Congress makes when it decides whether to enact legislation regulating a particular area.

Pet. App. A13 (citations omitted); *see also id.* at A80-A81 (explaining EPA's view of its discretion under section 202(a)(1)).

This interpretation of the phrase "in his judgment" must be rejected. Here again, the plain text of the statute supplies the answer. Section 202(a)(1) of the Clean Air Act states:

> The Administrator shall by regulation prescribe . . . standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.

42 U.S.C. 7521(a)(1). A simple parsing of the language shows that the phrase "in his judgment" modifies the clause

describing causation and endangerment.[35] It does not qualify the whole of section 202(a)(1).

The phrase "in his judgment" performs two simple functions in this provision. First, it makes clear that decision-making authority under section 202 is lodged in the Administrator of the EPA, not in any other official. *Cf. Gonzales v. Oregon*, 126 S.Ct. 904, 916-922 (2006) (declining to defer to the Attorney General's interpretation of the Controlled Substances Act where the interpretation pertained to matters outside his statutory purview). Second, it makes clear that Congress recognized the substantial challenges that may attend determinations about air pollution and endangerment, and did not expect or desire the Administrator to adhere to any rigid or mechanistic scientific formula in making decisions under conditions of uncertainty.[36]

Under the ruling below, the phrase "in his judgment" – inserted in the middle of a statutory provision and clearly qualifying only part of it – would swallow the whole of section 202(a)(1). While it may be that in other contexts a nod to an administrative official's judgment would convey the kind of discretion contemplated by the lead opinion below, here the statutory context makes plain that "in his judgment" modifies

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[35] *See also* H.R. Rep. No. 95-294 at 51 (1977) ("[T]he term 'in the judgment of the Administrator' is intended to modify both the 'cause or contribute to' phrase and the 'reasonably may be anticipated' phrase.").

[36] *See* H.R. Rep. No. 95-294 at 50-51 (1977) (describing House committee's decision, in crafting 1977 Amendments to the Act, to "use[] a standardized basis for future rulemaking to protect the public health: the Administrator may regulate a pollutant, emissions of 'which in his judgment cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare,'" and explaining that it would allow the Administrator "a substantial element of judgment, including making comparative assessment of risks, projections of future possibilities, establishing margins of safety and margins of error, extrapolating from limited data, etc.").

only the phrase following it, describing the scientific determination regarding endangerment. As this Court has counseled time and again,

> [t]he definition of words in isolation . . . is not necessarily controlling in statutory construction. A word in a statute may or may not extend to the outer limits of its definitional possibilities. Interpretation of a word or phrase depends upon reading the whole statutory text, considering the purpose and context of the statute, and consulting any precedents or authorities that inform the analysis.

Dolan v. U.S. Postal Service, 126 S.Ct. 1252, 1257 (2006); *see also, e.g., Leocal v. Ashcroft*, 543 U.S. 1, 9 (2004) ("Particularly when interpreting a statute that features as elastic a word as 'use,' we construe language in its context and in light of the terms surrounding it.").

By giving EPA wide-open discretion to decline to regulate, the lead opinion below also effectively converts the mandatory "shall" in section 202(a)(1) into a permissive "may." If Congress had meant "may," it could have written "may," just as it did in giving the Administrator the authority to regulate fuels and fuel additives.[37] But that is not what Congress did.

The conclusion that the phrase "in his judgment" does not give the agency freewheeling discretion is bolstered by consulting the many other provisions in the Clean Air Act that use this same phrase. In numerous instances, the Act includes the phrase "in his judgment" (or "in the Administrator's judgment") when it directs the Administrator to make a scientific determination that is a condition precedent to regulation or other administrative action.[38] Congress's use of

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[37] 42 U.S.C. 7545(c)(1) ("The Administrator *may* . . . control or prohibit the manufacture . . . of any fuel or fuel additive . . . if in the judgment of the Administrator any emission product of such fuel or fuel additive causes, or contributes, to air pollution which may reasonably be anticipated to endanger the public health or welfare . . . .") (emphasis added).

[38] *See, e.g.*, 42 U.S.C. 7408(a)(1)(A) (listing criteria pollutants); 7409(b)(1)-(2) (setting primary and secondary NAAQS);

the phrase "in his judgment" in so many critical provisions of the Act shows the danger in the radical interpretation of that term endorsed by the lead opinion below. If mere reference to the "judgment" of the Administrator gives the agency license not to regulate—or to regulate—based on the Administrator's undisciplined sense of whether it "makes sense to regulate," Pet. App. A81, then many of the Act's most important provisions become blank canvases for the Administrator to paint as he wishes. This is not what the statute says, and it is not consistent with this Court's continued admonitions that statutes must give some direction to agencies about how they are to implement the statutes they are charged with administering. *American Trucking*, 531 U.S. at 475.[39]

The lead opinion's sweeping view of the phrase "in his judgment" also has the potential to disrupt other statutory regimes. Numerous federal statutes direct an administrative official or agency to prescribe regulations when specific statutory criteria are, according to the official or agency's "judgment," met.[40] If, as the opinion below suggests, mere

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7411(b)(1)(A) (listing stationary sources subject to New Source Performance Standards (NSPS)); 7411(h)(1) (setting NSPS); 7412(h)(1) (setting standards for hazardous air pollutants); 7545(c)(1) (regulating fuels and fuel additives); 7547(a)(3)-(4) (setting standards for nonroad engines and vehicles); 7671n (regulating ozone-depleting substances).

[39] In *American Trucking*, this Court held that section 109(b), 42 U.S.C. 7409(b), allows consideration only of effects on public health and welfare when EPA sets the NAAQS, and precludes consideration of other factors such as cost. 531 U.S. at 464-471. Yet under the approach adopted by the lead opinion below, the reference to "judgment" in section 109(b) of the Act would broadly authorize consideration of "the sort of policy judgments Congress makes." Pet. App. A13. This approach is completely at odds with this Court's more modest statement of the agency's discretion in *American Trucking*.

[40] *See, e.g.*, 33 U.S.C. 601 ("[i]t shall be the duty" of the Secretary of the Army to issue regulations regarding use and administration of reservoirs at the head of the Mississippi River, as, in his judgment,

inclusion of the word "judgment" in a statutory provision is enough to transform it into "a discretionary exercise," Pet. App. A80, then these many other statutory provisions become empty vessels for the agencies to fill (or not) as they please.

Indeed, the approach taken in the lead opinion below mocks the very process of judicial review. The purpose of judicial review is not well served when courts approve agency action with reasoning that reads like Alexandre Dumas's famous *carte blanche*: "It is by my order and for the good of the state that the bearer of this has done what he has done."

CONCLUSION

For the foregoing reasons, the judgment of the court of appeals should be reversed.

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public necessity and interest require); 42 U.S.C. 300g-1(b)(2)(B) (EPA Administrator may regulate drinking water contaminants not listed in regulatory schedules if, in his judgment, regulation of them "is more likely to be protective of public health"); 42 U.S.C. 2156a (Nuclear Regulatory Commission "shall" issue regulations setting levels of physical security "which in its judgment will provide adequate protection" for nuclear facilities and material "taking into consideration variations in risks to security as appropriate").

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Supreme Court of the United States

THE COMMONWEALTH OF MASSACHUSETTS, *et al.*,
Petitioners,

v.

U.S. ENVIRONMENTAL PROTECTION AGENCY, *et al.*,
Respondents.

On Writ of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

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QUESTIONS PRESENTED

1. Whether petitioners have standing to challenge EPA's decision not to regulate the emission of carbon dioxide and other compounds that may contribute to global climate change.

2. Whether the EPA Administrator has authority under section 202(a)(1) of the Clean Air Act to regulate carbon dioxide and other compounds that may contribute to global climate change.

3. Whether the EPA Administrator may decline to issue emissions standards for motor vehicles based on policy considerations not specifically enumerated in section 202(a)(1) of the Clean Air Act.

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Ariz. Pub. Serv. Co. v. EPA,
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ASARCO Inc. v. Kadish,
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Babbitt v. United Farm Workers,
442 U.S. 289 (1979) 9

Central Valley Chrysler-Jeep, Inc. v. Witherspoon,
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Chevron U.S.A. Inc. v. NRDC,
467 U.S. 837 (1984) 36, 49

Chisom v. Roemer,
501 U.S. 380 (1991) 38

Chrysler Corp. v. Brown,
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Chrysler Corp. v. EPA,
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City of Los Angeles v. Lyons,
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Deal v. United States,
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Dir. of Revenue v. CoBank ACB,
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Doe v. Chao,
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Dolan v. USPS,
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Engine Mfrs. Ass'n v. S. Coast Air Quality Mgmt. Dist., 541 U.S. 246 (2004) 19

Ethyl Corp. v. EPA,
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FDA v. Brown & Williamson Tobacco Corp.,
529 U.S. 120 (2000) ..... passim

FEC v. Akins,
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Fresno Dodge, Inc. v. California Air Resources Board, No. 04-CECG-03498 (Fresno County Superior Court) 14

FW/PBS, Inc. v. City of Dallas,
493 U.S. 215 (1990) 8

Gen. Dynamics Land Sys., Inc. v. Cline,
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General Motors Corp. v. California Air Resources Board, No. 05-CECG-02787 (Fresno County Superior Court) 14

Green Mountain Chrysler Plymouth Dodge Jeep v. Balmasse, No. 05-cv302 (D. Vt.) 14

Haig v. Agee,
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Heckler v. Chaney,
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Mich. v. EPA,
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Motor & Equip. Mfrs. Ass'n v. EPA,
627 F.2d 1095 (D.C. Cir. 1979) 23

Nat'l Mining Ass'n v. DOI,
70 F.3d 1345 (D.C. Cir. 1995) 44

Newman-Green, Inc. v. Alfonzo-Larrain,
490 U.S. 826 (1989) 15

Nixon v. Mo. Mun. League,
541 U.S. 125 (2004) 22

NLRB v. Drivers, Chauffeurs, Helpers Local Union No. 639, 362 U.S. 274 (1960) 36

NRDC, Inc. v. Train,
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Sea-Land Service, Inc. v. Dep't of Transportation,
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Shannon v. United States,
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Simon v. E. Ky. Welfare Rights Org.,
426 U.S. 26 (1976) 16, 18

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Union Elec. Co. v. EPA,
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Union Electric Co. v. EPA,
427 U.S. 246 (1976) 49

United States Nat'l Bank of Or. v. Indep. Ins. Agents of Am., Inc., 508 U.S. 439 (1993) 19

United States v. Fausto,
484 U.S. 439 (1988) 36

United States v. Mead Corp.,
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Warth v. Seldin,
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Whitman v. Am. Trucking Ass'ns,
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WWHT, Inc. v. FCC,
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Zemel v. Rusk,
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Statutes

40 C.F.R. § 85.2122(a)(15)(ii)(A) 30

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42 U.S.C. § 7403(g) 39, 40

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42 U.S.C. § 7408(a) 27, 28

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42 U.S.C. § 7602 ..... 2, 20

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42 U.S.C. §§ 7521-5790 2

42 U.S.C. §§ 7671 ..... 3, 38, 39, 40

49 U.S.C. § 32901 14

49 U.S.C. § 32902(a) 37

Alternative Motors Fuel Act of 1988, Pub. L. No. 100-494, 102 Stat. 2441 (1988) 36

Energy Policy Act of 1992, Pub. L. No. 102-486, 106 Stat. 2776 (1992) 36

Food, Agriculture, Conservation, and Trade Act of 1990Title XXIV, Pub. L. No. 101-624, 104 Stat. 3359, §§ 2401-2412 (1990) 36

Global Change Research Act of 1990, 15 U.S.C. § 2931 *et seq.* (1990) 36

National Climate Program Act, Pub. L. No. 95-367, 92 Stat. 601 (1978) 36

Pub. L. 91-604, § 15(a)(1), 84 Stat. 1676, 1710 (1970), *reprinted in* 1970 U.S.C.C.A.N. 1954, 1997 33

Pub. L. No. 101-549, § 821 (1990) 39

Pub. L. No. 90-148, 81 Stat. 485, 499 (1967) 23

Pub. L. No. 91-604, 84 Stat. 1676 & 1690 (1970) 23

Other Legislative and Administrative Materials

111 Cong. Rec. H25,061 (Sept. 24, 1965) 32

116 Cong. Rec. S32,901 (Sept. 21, 1970) 32, 33, 34

136 Cong. Rec. S6479 (Apr. 3, 1990) 34

138 Cong. Rec. S17,150-01, S17,155 (Oct. 7, 1992) 42

1990 Clean Air Act Leg. Hist. 2667 (Reps. Roe and Smith) 40

Average Fuel Economy Standards for Light Trucks Model Years 2008-2011, 71 Fed. Reg. 17,566 (Apr. 6, 2006) 37

EPA Office of Policy, Planning, and Evaluation, Policy Options for Stabilizing Global Climate (Daniel A. Lashof & Dennis A. Tirpak, eds. 1990) 21

EPA, A Citizen's Guide to Chemical Oxidation (2001) 28

EPA, Automobiles and Carbon Monoxide (1993) 30

Global Climate Protection Act of 1987, Pub. L. No. 100-204, 101 Stat. 1331 (1987) 36

H.R. Conf. Rep. No. 101-952 (1990) 40

H.R. Rep. No. 95-294, 95th Cong., 1st Sess. (1977) 33

S. 139, 108th Cong. (2003) 35

Standards for Exhaust Emissions, Fuel Evaporative Emissions, & Smoke Emissions Applicable to 1970 & Later Vehicle Engines, 33 Fed. Reg. 8304 (June 4, 1968) 29

Other Authorities

Alex Kirby, BBCNews (May 8, 2003) 13

California Air Resources Board, Resolution 04-28 (Sept. 23, 2004) 15

Concise Oxford English Dictionary 307 (11th ed. 2004) 20

D. J. Patterson & N. A. Henein, Emissions from Combustion Engines and Their Control (1972) 29, 30

Daniel Velez, *No Fault Remediation of MTBE*, 26 Wm. & Mary J. Envtl. L. & Policy Rev. 477 (2001) 29

Gary E. Marchant, *Freezing Carbon Dioxide Emissions: An Offset Policy for Slowing Global Warming*, 22 Envtl. L. 623 (1992) 31

Gladwin Hill, *The Politics of Air Pollution: Public Interest and Pressure Groups*, 10 Ariz. L. Rev. 37 (1968) 23

J. Robert Mondt, Cleaner Cars: The History & Technology of Emission Control Since the 1960s (2000). 29, 30

Joseph D. Coons, *Air Pollution & Government Structure*, 10 Ariz. L. Rev 48 (1968) 23, 25

Kyoto Protocol to the United Nations Framework Convention on Climate Change, art. 3 ¶ 1 12

Thomas O. McGarity, *MTBE: A Precautionary Tale*, 28 Harv. Envtl. L. Rev. 281 (2004) 30

Webster's II New College Dictionary 875 (3d ed. 2005) 20

INTRODUCTION AND COUNTERSTATEMENT

In their zeal to compel the Environmental Protection Agency (EPA) to regulate "greenhouse gases" for purposes of affecting the overall composition of the Earth's atmosphere, petitioners urge this Court to upend three settled legal doctrines. Petitioners first seek to expand the scope of Article III standing to encompass suits by litigants whose alleged injury is speculative and generalized—not imminent or particularized—and not redressable through judicial action. Petitioners also disregard the Clean Air Act's plain language, seeking through judicial fiat to vest EPA with regulatory authority that Congress has never seen fit to afford it and has instead expressly granted to other federal agencies. Finally, petitioners cast aside the requisite judicial deference to agency decision-making by seeking to persuade this Court to substitute petitioners' judgment for that of the agency's Administrator who concluded that, even if Congress had given EPA authority to regulate greenhouse gas emissions for purposes of affecting the global climate, such regulation would be inappropriate at this time. The rejection of any of these three untenable positions is a sufficient basis, standing alone, to affirm the court of appeals' decision.

1. The core provisions of the Clean Air Act, Pub. L. No. 88-206, 77 Stat. 393 (1963), 42 U.S.C. § 7401 *et seq.*, have been on the books for decades. The Act has been heavily revised over the years, with notable amendments enacted on several occasions after close congressional scrutiny. The essence of the Act is to establish a federal framework for working with state and local governments to prevent and control "air pollution" through federal mandates designed to achieve reductions in "air pollutants," a defined term under the Act. 42 U.S.C. § 7401(a) & (b).

As its title indicates, the "Clean Air" Act was devised as an inter-governmental regulatory framework to accomplish the "cleaning" of the air we breathe—to reduce or eliminate substances identified as causing "dirty" air. Congress's use

in the Act of the term "air pollutant" in this ordinary sense is reinforced by the various substances expressly identified in the Act as air pollutants, such as carbon monoxide, hydrocarbons, nitrogen oxides, and particulate matter. *See* 42 U.S.C. § 7602. These are all "air pollutants" that, at excessive levels, cause direct substantial health problems for humans.

For nearly four decades, EPA has carried out the task of preventing and controlling air pollution through regulatory actions that help clean the air, making it fit to breathe. EPA is required to set national ambient air quality standards (NAAQS) for any "air pollutant" that causes or contributes to "air pollution" reasonably anticipated to endanger public health or welfare. *See id.* §§ 7408-7409. The federal and state partnership for satisfying the NAAQS in local air quality control regions is accomplished through state implementation plans. *See id.* § 7410.

Title I of the Clean Air Act focuses on preventing and controlling "air pollution" emitted by stationary sources (such as factories and power plants). Title II of the Act, at issue here, creates a regulatory framework for controlling "air pollution" from motor vehicles and other mobile sources. *See id.* §§ 7521-7590. Mirroring the provisions of Title I, Title II authorizes EPA's Administrator to prescribe standards "applicable to the emission of any air pollutant from any class or classes of new motor vehicles ... which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." *See id.* § 7521(a)(1).

2. No EPA Administrator has ever understood the agency to have authority to regulate emissions of carbon dioxide (CO_2) for purposes of affecting global climate change, nor has any determined carbon dioxide to be an "air pollutant." Carbon dioxide is a significant, naturally occurring gas compound in the Earth's atmosphere; it is exhaled by every living, breathing human and animal; and it is essential to life, serving as an irreplaceable component of plant photosynthe-

sis. For decades, Congress and EPA have encouraged processes by which harmful pollutants, such as carbon monoxide, are reduced or eliminated by transforming them into harmless byproducts, including water vapor and carbon dioxide. The standard process by which catalytic converters operate to reduce air pollution from motor vehicles, for example, results in the production of carbon dioxide and its emission into the air.

From time to time, Congress has considered issues affecting the atmospheric environment, such as concerns about ozone depletion in the stratosphere, which are global rather than local or regional in scope and hence cannot readily be addressed within the intergovernmental domestic framework established by the Act. On this issue of upper-atmospheric ozone, in particular, Congress eventually decided to take action by making an express delegation of authority to EPA under a new regulatory framework. *See* 42 U.S.C. §§ 7671-7671q.

Another broad issue that has been discussed and analyzed is the proposed regulation of greenhouse gases—such as carbon dioxide, water vapor, methane, and nitrous oxide—emitted from new motor vehicles and engines. As with stratospheric ozone depletion, this issue is global in scope. And because greenhouse gases tend to dissipate uniformly throughout the atmosphere, it does not easily or practically lend itself to localized regulation through the federal-state partnership established under the Clean Air Act. Nor does this issue involve the "cleaning" of "dirty" air; rather, it involves a more complex effort to regulate the overall composition of the Earth's atmosphere in order to affect global climate change—a controversial phenomenon that is far from fully understood or defined, and which remains the subject of intense debate within the scientific community. *See* JA 152.

3. This case stems from a rulemaking petition initiated in 1999 by a group of parties, including a variety of academic centers and research groups. *See* JA 5-45. The petition re-

quested that EPA undertake the regulation of greenhouse gases, including carbon dioxide, emitted by new motor vehicles. The petition alleged that such gases contribute to global climate change and should be regulated under Title II of the Clean Air Act. EPA went through a multi-year process of soliciting and analyzing comments on the petition and ultimately denied it. EPA determined that it lacked statutory authority to regulate carbon dioxide and other greenhouse gases for purposes of addressing global climate change. *See* Pet. App. A-59-A-93. EPA noted, in particular, that the only references in that Act to carbon dioxide or global climate change were non-regulatory in nature, and concluded that carbon dioxide and other greenhouse gases do not fit the statutory definition of "air pollutant[s]." *See id.* In addition, EPA noted that Congress was continuing to address the issues relating to global climate change in other legislation and had rebuffed numerous attempts to grant this new authority to EPA, including in the Senate's consideration of the United Nations Framework Convention on Climate Change. *See id.* In none of these congressional debates has it ever been determined that no further legislative action is necessary on the ground that such regulatory authority was conferred on EPA nearly four decades ago when Congress first passed the Clean Air Act.

EPA emphasized that any attempt it might make to regulate motor vehicle greenhouse gas emissions would upset and interfere with the Department of Transportation's carefully calibrated, mandatory fuel-economy standards, which are "the only practical way to reduce tailpipe emissions" of carbon dioxide. *Id.* at A-79. EPA further explained that, even if it had been granted statutory authority by Congress, it would exercise its discretion to deny the rulemaking petition because the Administrator did not believe "it would be either effective or appropriate for EPA to establish [greenhouse gas] standards for motor vehicles at this time." *Id.* at A-82. Relying on a comprehensive report by the National Research

Council, EPA observed that there remains significant scientific uncertainty regarding "the factors that may affect future climate change and how it should be addressed." *Id.* at A-83. In light of this uncertainty and the ongoing congressionally funded studies designed to augment scientific understanding of global climate change, EPA concluded that it would be premature to regulate greenhouse gases. *See id.* at A-85. EPA also determined that the regulation of greenhouse gas emissions from motor vehicles would be inappropriate because such regulation would have the immediate potential to interfere with the United States' efforts to persuade developing nations on the subject; would result in inefficient, piecemeal regulation; and would exceed the capabilities of present technology. *See id.* at A-86-A-87.

4. Petitioners, joined by various state attorneys general, appealed EPA's decision to the Court of Appeals for the District of Columbia Circuit, which affirmed in a decision that resulted in three separate opinions. What stands as the basis for the judgment of the court is the opinion by Judge Randolph, who indicated that he was willing to presume that petitioners met the requirements for standing, which he found to be intertwined with the merits, *see id.* at A-8-A-10, and went on to determine that EPA had properly exercised its discretion to deny the petition. He stated that he would "assume *arguendo* that EPA has statutory authority to regulate greenhouse gases from new motor vehicles," but upheld EPA's denial of the petition because the Administrator has "considerable discretion" to make policy judgments in dealing with such a petition, which in this case would have required EPA to "resolve issues 'on the frontiers of scientific knowledge.'" *Id.* at A-10, A-13-A-15.

Judge Sentelle found that petitioners lacked standing. He did not address the merits, but joined Judge Randolph in announcing the judgment of the court. *See id.* at A-20. In his opinion, Judge Sentelle found that petitioners had "shown no harm particularized to themselves," but only "the sort of gen-

eral harm eschewed as insufficient to make out an Article III controversy." *Id.* at A-17-A-18.

Judge Tatel, by contrast, found for petitioners on standing and against EPA on the merits. On standing, he was convinced by declarations in the record submitted by Massachusetts suggesting that global warming might cause sea levels to rise and could eventually lead to the erosion of a portion of the Commonwealth's land mass. *See id.* at A-27. On the subsidiary standing issues of causation and redressability, he was willing to accept as adequate a chain of connection, sketched out in various declarations, between EPA's potential actions domestically, potential responsive actions by millions of individuals and consumers, potential eventual effects of these actions on the global climate, and other actions to be possibly undertaken in the future by other nations. *See id.* at A-27-A-30. On the merits, Judge Tatel concluded that EPA had the statutory authority to regulate greenhouse gas emissions, and that EPA had abused its discretion by failing to grant the petition. *See id.* at A-31-A-56.

The panel denied rehearing, Judge Tatel dissenting; rehearing en banc also was denied, with Judges Rogers, Tatel, and Griffith dissenting. *See id.* at A-94-A-98.

SUMMARY OF ARGUMENT

1. Petitioners do not meet the irreducible constitutional minimum requirements for standing to sue. If petitioners are to avoid injuries from changes in the global climate, which they believe may occur by the year 2100, a long, tenuous chain of events beyond the control of either the parties or this Court must occur over a period of several decades. Even assuming a significant reduction in greenhouse gases emitted from new motor vehicles sold in the United States could be achieved through regulation, it is purely speculative whether such regulation would spur a large enough reduction in *worldwide* greenhouse gases to affect the composition of the Earth's atmosphere and avoid the injuries predicted by peti-

tioners. The chain of causation allegedly linking EPA's actions to petitioners' alleged injuries—as affected by hypothetical and unproven assumptions about actions by foreign governments and other third parties, poorly understood changes in the atmosphere, and their ultimate effects—is highly attenuated and uncertain, and thus insufficient to satisfy Article III's rigorous requirements.

2. Even if petitioners could establish standing, the petition should be denied because EPA has no authority to regulate greenhouse gas emissions for purposes of affecting the global climate. The text of the Clean Air Act makes plain that Congress intended it as a measure to "clean" the air of pollutants, not to alter the overall composition of the Earth's atmosphere. Accordingly, Congress has never contemplated EPA regulation of carbon dioxide emissions from automobiles. Quite the opposite is apparent from both the text and the structure of the Act. Not only has Congress never regarded carbon dioxide as an "air pollutant" subject to regulation under the Act, but its only explicit mention of carbon dioxide is in a single passage that makes clear Congress's intention to deny EPA any authority to regulate emissions of carbon dioxide. Petitioners' claim is utterly inconsistent with the agency's approach to reducing other air pollutants, in place for nearly four decades, by transforming those impurities into what are regarded as "harmless by-products," including water vapor and carbon dioxide. Far from being treated as an "air pollutant," carbon dioxide has been uniformly regarded as a non-pollutant whose production has been encouraged in order to reduce or eliminate those pollutants specified in the statute and regulations. It is up to Congress to take the step that petitioners are here demanding from the courts. The Court's decision in *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000), strongly reinforces the grounds for that conclusion.

3. Finally, even if Congress had granted EPA expansive authority to regulate for purposes of affecting the global cli-

mate, EPA properly exercised its broad regulatory discretion when it concluded that regulation of greenhouse gas emissions from new motor vehicles is inappropriate at this time. Agency decisions refusing to initiate rulemaking proceedings are singularly ill-suited to judicial review because they involve discretionary determinations about the allocation of scarce agency resources and the ordering of agency regulatory priorities. This Court lacks the administrative expertise to second-guess EPA's determination that scientific uncertainty, regulatory inefficiency, technological infeasibility, and foreign policy considerations militate against the regulation of greenhouse gas emissions. EPA's inherent regulatory discretion is reinforced by the broad grant of discretionary authority explicitly afforded by section 202(a) of the Clean Air Act. In exercising his "judgment" about whether and when to make an endangerment finding regarding an "air pollutant," the Administrator is at liberty to consider policy considerations he deems appropriate.

ARGUMENT

I. Petitioners Lack Article III Standing.

Petitioners make only the most casual of efforts to demonstrate standing, even though standing was contested below; only dissenting Judge Tatel found that petitioners had established it; and petitioners have the burden of satisfying this threshold requirement. *See, e.g., FW/PBS, Inc. v. City of Dallas*, 493 U.S. 215, 231 (1990); *see also* Pet. Br. 4-7. These foundational problems cannot be assumed away. Petitioners' alleged injuries are based on scientific hypotheses that "remain incompletely resolved" and will come to pass, if ever, perhaps by the year 2100. Pet. Br. 2. Moreover, because reducing greenhouse gas emissions from new motor vehicles in this country will not likely have any direct measurable effect on the global climate, any potential injury petitioners may eventually suffer is unlikely to be remedied by a remand to EPA. Even when supported by reams of untested

declarations, such generalized, speculative allegations are insufficient to establish Article III standing.

To invoke the Court's jurisdiction, petitioners must satisfy the three elements of the "irreducible constitutional minimum of standing." *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560 (1992). Those requirements are clear. A plaintiff (or petitioner) must plead and prove an "injury in fact" that is: (1) "concrete and particularized" and "actual or imminent, not conjectural or hypothetical"; (2) fairly traceable to the defendant's conduct, not "the result [of] the independent action of some third party not before the court"; and (3) "likely" to be "redressed by a favorable decision." *Id.* at 560-61 (internal quotation marks omitted; brackets in original). These requirements become "'substantially more difficult' to establish" where, as here, the parties invoking federal jurisdiction are not themselves "the object of the government action or inaction" they are challenging. *Id.* at 562. Petitioners have failed to satisfy these basic requirements.

A. Petitioners' Alleged Injuries Are Conjectural, Not Imminent, And Too Generalized.

"Allegations of possible future injury do not satisfy the requirements of Art. III." *Whitmore v. Arkansas*, 495 U.S. 149, 158 (1990). Although a plaintiff need not "await the consummation of threatened injury" before invoking a federal court's jurisdiction, the threatened injury must at least be "certainly impending." *Babbitt v. United Farm Workers*, 442 U.S. 289, 298 (1979) (quoting *Pennsylvania v. West Virginia*, 262 U.S. 553, 593 (1923)); *City of Los Angeles v. Lyons*, 461 U.S. 95, 101-02 (1982) ("the ... threat of injury must be both 'real and immediate,' not 'conjectural or hypothetical'"). Petitioners' alleged injuries are neither certain nor impending.

Petitioners' central allegation is that EPA's failure to regulate greenhouse gas emissions from new motor vehicles, such as cars and light trucks, may cause substantial harm by

the year 2100. Petitioners argue that unless EPA takes action, atmospheric concentrations of greenhouse gases "are likely to increase," and, as a result, the Earth's average surface temperature "is projected to increase," perhaps "2 to 4.5°C over 1990 levels," "[b]y the end of the century." JA 230-31. This projected increase in global temperatures, in turn, leads to the further projection that "by 2100" sea levels will rise by "about 4 to 35 inches," and that "the length of the very warm season will increase," along with "the frequency and intensity of intense convective rainfall events." JA 233-35.

It is this apocalyptic vision of conditions in the year 2100 upon which petitioners base their allegations of injury. For instance, the City of Baltimore alleges that global climate change will result in rising sea levels that may eventually damage property within the City's floodplain. *See* Conrad Decl. ¶ 10. That fear is based on "scientific models" predicting "that in the Chesapeake Bay the associated sea level rise would be approximately 27 inches *by the year 2100*." *Id.* ¶ 8 (emphasis added). Massachusetts' fears of eventual coastal inundation are similarly bottomed on climate and sea level forecasts for the year 2100. *See* Hoogeboom Decl. ¶ 6; Kirshen Decl. ¶ 6; Jacqz Decl. ¶ 11; *see also* JA 231 (MacCracken Decl.) (stating that the rate of warming will accelerate over time, putting the most significant temperature increases at the end of the century).

Alleged injuries that might occur (if ever) ninety-four years in the future are insufficient to establish standing. This Court's discussion in *Whitmore* of its decision in *United States v. SCRAP*, 412 U.S. 669 (1973), confirms the point. *See* 495 U.S. at 158-59. In *Whitmore*, this Court contrasted the petitioner's claim of injury—that the challenged state court decision could affect his sentencing in the event of a retrial—with the injury alleged in *SCRAP*, which was similarly premised on improbable contingencies and "surely went to the very outer limit of the law." *Id.* at 159. This Court dis-

tinguished *SCRAP* on the ground that the *SCRAP* litigants had alleged harms that "would befall its members imminently if the ICC orders were not reversed," while Whitmore could not make "a similar claim of immediate harm." *Id.* The Court concluded that the failure to demonstrate "that the string of occurrences alleged would happen immediately" precluded a finding that Whitmore's allegation of injury was sufficiently "real and immediate" to confer standing. *Id.* So too here. "Although 'imminence' is concededly a somewhat elastic concept," it is "stretched beyond the breaking point," when a plaintiff alleges only an injury "at some indefinite future time." *Lujan*, 504 U.S. at 565 n.2.

The lack of imminence is compounded by the highly generalized nature of the alleged injury. As Judge Sentelle correctly noted, the "phenomenon known as 'global warming' ... is harmful to humanity at large." Pet. App. A-18. Petitioners therefore "have alleged and shown no harm particularized to themselves." Pet. App. A-17. The requirement of a particularized injury—an injury that affects the plaintiff in a "personal and individual way," *Lujan*, 504 U.S. at 560 n.1—is essential to ensuring the proper allocation of power between our three branches of government. "Without such limitations," whether grounded in Article III or prudential considerations, "the courts would be called upon to decide abstract questions of wide public significance even though other governmental institutions may be more competent to address the questions and even though judicial intervention may be unnecessary to protect individual rights." *Warth v. Seldin*, 422 U.S. 490, 500 (1975). Congress has at times given courts the power to vindicate interests that—absent such explicit authorization—would be too generalized. *See, e.g., FEC v. Akins*, 524 U.S. 11, 22 (1998) (injury-in-fact requirement satisfied where a statute seeks to protect respondents "from the kind of harm they say they have suffered, *i.e.*, failing to receive particular information about campaign-related activities"). But there is no indication Congress in-

tended to cede to the judicial branch—at the instigation of any person, organization, or government the world over—the power to address the political issue of global climate change. As this Court has recognized, such generalized grievances are "more appropriately addressed in the representative branches." *Elk Grove Unified Sch. Dist. v. Newdow*, 542 U.S. 1, 12 (2004) (citation and internal quotation marks omitted).

The need to establish the imminence of an injury—even a particularized one—is especially important where the possibility of its occurrence is heavily contingent upon the conduct of third parties. As even the dissenting opinion in *Lujan* recognized, in cases where the "harm turn[s] largely on the affirmative actions of third parties beyond a plaintiff's control," this Court has strictly applied the "imminence" requirement. *See* 504 U.S. at 592-93 (Blackmun, J., dissenting). This case amply illustrates the wisdom of such a constraint on the exercise of judicial power.

Each of petitioners' specific allegations of injury—inundation of coastal property, damage to coastal facilities, and increased costs for health care and emergency response—is grounded in an assumption that, absent EPA regulation of a small fraction of global emissions (that is, those from new vehicles in the United States), "atmospheric concentrations of [greenhouse] gases are likely to increase at least as much and at least as fast as in recent decades." JA 230-31 & n.13. This is speculative in the extreme. Worldwide events occurring in the last two years demonstrate how risky it is for courts to recognize standing based on injuries that may occur, if at all, in the very distant future. For example, the Kyoto Protocol, which came into effect on February 16, 2005, requires ratifying "Annex 1" nations (a group that includes every nation of the European Union, Russia, and Canada) to reduce their greenhouse gas emissions by 2012 to approximately five percent *below* 1990 levels. *See* Kyoto Protocol to the United Nations Framework Convention on

Climate Change, art. 3 ¶ 1. Great Britain has separately committed to reduce its greenhouse gas emissions to 60 percent of its 1990 levels by 2050. *See* Alex Kirby, *UK 'will make bigger greenhouse cuts'*, BBCNews, May 8, 2003, http://news.bbc.co.uk/2/hi/science/nature/3011169.stm. In the United States, many companies have undertaken to reduce emissions on a voluntary basis. *See, e.g.*, EPA, GHG Reduction Goal Achievers, http://www.epa.gov/climateleaders/partners/goalachievers.html (last visited Oct. 22, 2006) (identifying industries in the United States that are voluntarily reducing greenhouse gas emissions). As for the future, it simply is not possible to predict, with any degree of certainty, the changes—whether positive or negative—that will result from other international, national, or private-sector actions. This is especially problematic where such predictions must cover conduct that might occur decades from now and where the actions of other actors could easily render inconsequential the effects of a decision whether to regulate the small portion of worldwide emissions at issue here.

In short, because they do not face any imminent injury, petitioners are forced to rely on predictions of harm decades in the future, the occurrence of which is largely (if not entirely) dependent on actions other nations take in their own regulation of greenhouse gas emissions. Petitioners' hypotheses, each of which is the subject of an active scientific debate, *see* Amicus Curiae Brief of Climatologists and Scientists Sallie Baliunas, *et al.* at 5 & 8-9; *see also infra*, pp. 44-45, are reduced to conjecture by the inherent uncertainty of global events that will unfold between now and the time of the predicted injury. The ultimate terminus of petitioners' speculative chain accordingly cannot be viewed as "certain" to occur. By prohibiting adjudication of petitioners' speculative claims of injury, the injury in fact requirement "reduce[s] the possibility of deciding a case in which no injury would have occurred at all." *Id.*

Perhaps recognizing that their purported injuries are neither imminent nor concrete, petitioners also now contend that EPA's conclusion that carbon dioxide is not a "agent of air pollution" threatens to preempt the efforts of California and other States to regulate vehicular greenhouse gas emissions. *See* Pet. Br. 6 n.5; *see also* Br. of State of Ariz., *et al.*, as Amici Curiae in Supp. of Pet'rs. State regulation of carbon dioxide from motor vehicles is a subject of pending litigation in several federal courts and in state court.[1] This Court has held that claims of injury predicated on the outcome of collateral litigation are too conjectural to satisfy Article III. "It is just not possible for a litigant to prove in advance that the judicial system will lead to any particular result in his case." *Whitmore*, 495 U.S. at 159-60. This is particularly so in this instance. The principal challenge to the state regulations in the cases in the district courts is that they are preempted by the Energy Policy and Conservation Act, 49 U.S.C. § 32901, *et seq.* (EPCA), which gives the National Highway Traffic Safety Administration authority to set mandatory fuel economy standards.[2] Regardless of the status of the state regula-

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[1] *See, e.g., Central Valley Chrysler-Jeep, Inc. v. Witherspoon*, No. 04-6663 (E.D. Cal.); *Green Mountain Chrysler Plymouth Dodge Jeep v. Balmasse*, No. 05-cv302 (D. Vt.); *Lincoln Dodge, Inc. v. Sullivan*, No. 06-70 (D. R.I.); *Fresno Dodge, Inc. v. California Air Resources Board*, No. 04-CECG-03498 (Fresno County Superior Court); *General Motors Corp. v. California Air Resources Board*, No. 05-CECG-02787 (Fresno County Superior Court).

[2] In the case pending in the Eastern District of California, several petitioners moved to dismiss the challenges to the state greenhouse gas regulations under EPCA, on the ground that any state regulation that is lawful under the Clean Air Act could not be preempted under EPCA. The District Court rejected that argument and determined that the implied conflict preemption claims under EPCA presented by the specific regulations involved in that case should go to trial. *Central Valley Chrysler-Jeep, Inc. v. Witherspoon*, No. 04-6663 (E.D. Cal., Sept. 25, 2006) (Doc. # 363), slip op. at 16 ("Nothing in the statutory language or the legislative

tions under the Clean Air Act, the state greenhouse gas regulations involved in the pending actions in the district courts would still be invalid under federal law if those regulations conflict with the goals and purposes of the federal fuel economy program—which is an issue that can only be decided on the merits in the pending actions, where the interplay between the specific state regulations and the federal fuel economy program can be determined on a full record.

In any event, it is axiomatic that "standing is to be determined as of the commencement of suit." *Lujan*, 504 U.S. at 570-71 n.5; *see also Newman-Green, Inc. v. Alfonzo-Larrain*, 490 U.S. 826, 830 (1989) ("The existence of federal jurisdiction ordinarily depends on the facts as they exist when the complaint is filed."). Petitioners filed their petition for review in the D.C. Circuit on October 23, 2003. *See* JA 1. California did not promulgate regulations restricting vehicular carbon dioxide emissions until September 2004, *see* California Air Resources Board, Resolution 04-28 (Sept. 23, 2004), and litigation concerning the validity of those regulations did not ensue until December 2004. Petitioners could not possibly have faced imminent injury in 2003 due to litigation that was not initiated until December 2004. *See* Compl., *Cent. Valley Chrysler-Jeep, Inc.* (Dec. 7, 2004).[3]

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history of the Clean Air Act ... or any other statute before the court indicates Congress's intent that [approval under the Clean Air Act] would allow a California regulation to disrupt" the federal fuel economy program.).

[3] None of the cases cited in the amicus brief from the State of Arizona stands for the remarkable proposition that a State has standing to challenge an agency decision simply because the reasoning of the decision gives a third party a colorable basis for challenging a State's regulatory efforts in a separate proceeding. And other cases explicitly reject such a notion. *See, e.g., Sea Land Service, Inc. v. Dep't of Transportation*, 137 F.3d 640, 648 (D.C. Cir. 1998) ("mere precedential effect within

Neither category of injury alleged by petitioners is actual or imminent; each is overly speculative; and the one that originally formed the basis for petitioners' challenge is as generalized as could be imagined. Petitioners have not satisfied the injury-in-fact requirement.

B. The Relief Requested By Petitioners Is Unlikely To Redress Their Alleged Injuries.

Petitioners contend that, "[a]bsent changes in policy to reduce greenhouse gas emissions, atmospheric concentrations of these gases are likely to increase" and they will suffer grave injuries as a result. JA 230-31. But petitioners' lawsuit, even if it were successful, is unlikely to result in any significant reduction in atmospheric concentrations of greenhouse gases or to prevent the injuries of which petitioners complain. It is, at most, a matter of "unadorned speculation" whether petitioner's lawsuit will result even in regulations restricting vehicular emissions of such gases in the United States. *See Simon v. E. Ky. Welfare Rights Org.*, 426 U.S. 26, 44 (1976). It is a matter of even greater speculation whether such regulations, if promulgated, would noticeably affect any of the climate-related conditions that petitioners assert as their basis for injury-in-fact. Petitioners, therefore, do not stand to "'benefit in a tangible way from the court's intervention.'" *Steel Co. v. Citizens for a Better Env't*, 523 U.S. 83, 103 n.5 (1998) (quoting *Warth*, 422 U.S. at 508).

Petitioners' claim of redressability relies on a chain of inferences too speculative to satisfy Article III's minimum requirements. Petitioners concede that a favorable judgment in this Court will do nothing more than send the matter back to EPA for a determination whether greenhouse gas emissions from new vehicles endanger public health or welfare. Pet.

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an agency is not, alone, enough to create Article III standing, no matter how foreseeable the future litigation").

Br. 3 (asking this Court "to remand the case to the agency with directions to apply the correct legal standard to this matter; that is all.") Assuming that scientific evidence is sufficiently developed to allow EPA to make such a determination, petitioners precariously rest their standing claim on a chain of unsupported suppositions: that EPA will conclude it is technologically feasible to implement regulations limiting vehicular greenhouse gas emissions, *see* 42 U.S.C. § 7521(a)(2); that such regulations will spur the development of technology that otherwise would not have become available; that such technological advances will lead other countries to reduce greenhouse gas emissions to the point where the overall effect on global atmospheric greenhouse gas concentrations is great enough to prevent a material rise in sea levels or other climate-related events; and that greenhouse gas emissions from other sources around the world will not offset these salutary effects.

Petitioners offer little reason for the Court to join them in this speculative leap of faith. Even if it were certain that, on remand, EPA would promulgate restrictions on greenhouse gas emissions, it is uncertain whether such restrictions would result in any appreciable reduction in atmospheric concentrations of greenhouse gases. Such regulations would apply only to new motor vehicles sold in the United States. The new vehicles would comprise a mere fraction of the "U.S. transportation sector" to which petitioners ascribe seven percent of global fossil fuel emissions. JA 238. More importantly, unlike true "air pollutants"—whose concentrations and potential impacts are local and regional in nature—greenhouse gases are dispersed evenly throughout the lower stratosphere, and those atmospheric concentrations are optimally reduced only through a *worldwide* reduction in emissions. To bridge this gap, petitioners rely on the single conclusory statement in one of their declarations that "[i]f the U.S. takes steps to reduce motor vehicle emissions, other countries are very likely to take similar actions regarding

their own motor vehicles using technology developed in response to the U.S. program[.]" JA 239.

This Court has recognized that redressability of injury is most difficult to establish when it "depends on the unfettered choices made by independent actors not before the courts and whose exercise of broad and legitimate discretion the courts cannot presume either to control or to predict." *ASARCO Inc. v. Kadish*, 490 U.S. 605, 615 (1989) (opinion of Kennedy, J.). Petitioners' optimistic predictions that if the United States leads, other countries "are very likely" to follow, JA 239, are precisely the type of "unadorned speculation" that is insufficient to confer standing. *Simon*, 426 U.S. at 44. That the speculation is packaged in declarations cannot change the fact that "it is entirely conjectural whether the non-agency activity that affects [petitioners] will be altered or affected by the agency activity they seek to achieve." *Lujan*, 504 U.S. at 571. The declarations are simply insufficient to demonstrate that "relief from the injury [is] 'likely' to follow from a favorable decision." *Allen v. Wright*, 468 U.S. 737, 751 (1984).

As in *Lujan*, if this Court were to remand to EPA, it would be "very much an open question" whether the agency action petitioners seek is "likely to produce" an outcome that alleviates their asserted injuries. *See* 504 U.S. at 568. Because petitioners' alleged injuries are conjectural and far from imminent, and because it is highly speculative whether any such injuries are likely to be redressed by a favorable decision, they do not have standing to sue.

II. The Clean Air Act Does Not Authorize EPA To Regulate Greenhouse Gas Emissions For Purposes Of Controlling Global Climate Change.

When the language of the Clean Air Act is construed in proper context and in accord with its ordinary meaning, it is clear that Congress did not delegate to EPA any authority to regulate greenhouse gas emissions for purposes of affecting

the overall composition of the Earth's atmosphere. The phenomenon of global climate change has been repeatedly debated by Congress and authority to regulate in this area expressly granted to others within the Article II branch.

A. The Text Of The Act Does Not Authorize EPA To Regulate Greenhouse Gas Emissions For Climate Change Purposes.

Statutory construction "'must begin with the language employed by Congress and the assumption that the ordinary meaning of that language accurately expresses the legislative purpose.'" *Engine Mfrs. Ass'n v. S. Coast Air Quality Mgmt. Dist.*, 541 U.S. 246, 252 (2004) (quoting *Park 'N Fly, Inc. v. Dollar Park & Fly, Inc.*, 469 U.S. 189, 194 (1985)). The words of a statute, moreover, "must be read" in "context and with a view to their place in the overall statutory scheme." *Doe v. Chao*, 540 U.S. 614, 630 (2004) (quoting *Davis v. Mich. Dep't of Treasury*, 489 U.S. 803, 809 (1989)). Words and phrases should not be interpreted in "isolation" or strained to the limits of "definitional possibilities." *Dolan v. USPS*, 126 S. Ct. 1252, 1257 (2006). Statutory construction is a "holistic endeavor" that, at a minimum, "must account for a statute's full text, language as well as punctuation, structure, and subject matter." *United States Nat'l Bank of Or. v. Indep. Ins. Agents of Am., Inc.*, 508 U.S. 439, 455 (1993).

1. The Statute's Plain Language Does Not Authorize EPA Regulation.

Title II of the Clean Air Act authorizes EPA's Administrator to regulate "the emission of any *air pollutant* from ... new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, *air pollution* which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7521(a)(1) (emphasis added). The Act defines "air pollutant" as "any air pollution agent or combination of such agents, including any physical, chemical, bio-

logical, radioactive (including source material, special nuclear material, and byproduct material) substance or matter which is emitted into or otherwise enters the ambient air." 42 U.S.C. § 7602(g).

The ordinary meaning of "pollution" is the "*[c]ontamination* of air, soil, or water by the discharge of harmful substances." Webster's II New College Dictionary 875 (3d ed. 2005) (emphasis added). Similarly, the ordinary meaning of "pollutant" is "[s]omething that pollutes, esp. a *waste material* that *contaminates* air, soil, or water." *Id.* (emphasis added). In authorizing EPA regulation of "air pollutants," Congress vested the agency with authority to implement controls over emissions of chemicals and substances that *contaminate* the air by making it impure or dirty. *See* 42 U.S.C. § 7401(a) & (b) (the Act's basic purposes are "air pollution prevention" and "air pollution control"). EPA's statutory directive, as the Act's title demonstrates, is to "clean" the air.

This plain and natural reading of the Act's terms is reinforced by Congress's reference to an "air pollution agent," thereby underscoring its intent to focus on substances that contaminate the air we breathe, not naturally occurring compounds that are ubiquitous, life-sustaining components of the Earth's atmosphere. It is further reinforced by the various substances expressly identified as pollutants pursuant to section 302, such as carbon monoxide, hydrocarbons, nitrogen oxides, and particulate matter. *See* 42 U.S.C. § 7602. These are all "pollutants" that dirty the air and, at excessive levels, pose substantial health problems for humans.

Carbon dioxide is substantially different. Unlike other substances EPA has been regulating for over 30 years, carbon dioxide is not an "air pollutant" in any sense of the word. Carbon dioxide is exhaled by every living, breathing human. It is naturally one of the most plentiful compounds in the atmosphere, it is essential to life, and it cannot be understood to "contaminate" the air. *Cf.* Concise Oxford English Dictionary 307 (11th ed. 2004) ("contaminate" means "make

(something) impure by exposure to or addition of a poisonous or polluting substance"). Without carbon dioxide life would not be sustainable on Earth, for the planet would be approximately 30 degrees colder and plants could not engage in essential photosynthesis. *See* EPA Office of Policy, Planning, and Evaluation, Policy Options for Stabilizing Global Climate 2 (Daniel A. Lashof & Dennis A. Tirpak, eds. 1990) (noting the greenhouse effect is, "to a great extent, responsible for making the Earth conducive to life").

Global climate change—which may result in part from long-term shifts in the overall composition of the Earth's atmosphere—is also not an "air pollution" problem. Greenhouse gases such as carbon dioxide and water vapor do not contaminate the air we breathe; rather, they are an integral part of a complex, dynamic climate system. Although increased or decreased levels of these naturally occurring compounds may affect global ambient temperatures, that does not mean that the air is becoming more or less polluted. The textual provisions of the Clean Air Act, which vest EPA with authority to promulgate regulations designed to "clean" the air and make it fit to breathe, cannot be blithely transformed into an immensely broad mandate to reshape the composition of the Earth's atmosphere.

Fighting uphill against the statute's plain and natural meaning, petitioners argue that, because section 302(h) lists "climate" as a relevant "effect[] on welfare," Congress intended EPA to "address concerns about global climate change." Pet. Br. 15. But section 302(h) is a definitional provision that does not delegate regulatory authority—it merely describes the types of effects EPA may consider if a compound is properly classified as an "air pollutant" under the Act.

Petitioners are thus forced to argue that *any* "substance or matter" emitted into the air qualifies as an "air pollutant" that may be subject to EPA regulation. *See* Pet. Br. 12-13. In their view, because "air pollutant" is defined as "any air pol-

lution agent or combination of such agents, including any physical, chemical, biological, radioactive ... substance or matter which is emitted into or otherwise enters the ambient air," and because carbon dioxide is a "chemical ... substance ... which ... enters the ambient air," carbon dioxide is an "air pollutant" over which EPA has authority to regulate. *See id.* In fact, however, the only plausible interpretation of the Act—an interpretation consistent with the goal of cleaning the air—is that the "including" phrase in section 302(g) was intended not to expand the scope of the defined term, "air pollutant," but instead to indicate the breadth of substances that could be combined to create an "agent," without uncoupling this subsidiary term from the restrictions inherent in the principal term, "air pollutant." *See Deal v. United States*, 508 U.S. 129, 132-34 (1993) (the meaning of words must be drawn from the context in which they are used). A "substance or matter" must be an "air pollution agent" in order to meet the definition of "air pollutant" under the Clean Air Act. Ubiquitous, naturally occurring compounds such as oxygen, water vapor, and carbon dioxide were not what Congress had in mind.

The glaring flaw in petitioners' reading of the statute is that it relies on bare "definitional possibilities," *Dolan*, 126 S. Ct. at 1257, not a reasonable inquiry into Congress's intent in light of the statute as a whole. *See* Pet. Br. 12-15. Indeed, petitioners' expansive interpretation would lead to the absurd result that EPA would be *required* to consider not just carbon dioxide as an "air pollutant" subject to its regulatory control, but also other naturally occurring, ubiquitous substances in the Earth's atmosphere necessary for life, such as oxygen and water vapor. *See, e.g., Nixon v. Mo. Mun. League*, 541 U.S. 125, 138 (2004) (courts should not construe statutes in a manner that leads to absurd results) (citing *United States v. Am. Trucking Ass'ns, Inc.*, 310 U.S. 534, 543 (1940)).

Petitioners' proposed interpretation also violates the cardinal "rule against superfluities" in statutory construction.

Hibbs v. Winn, 542 U.S. 88, 101 (2004); *KP Permanent Make-Up, Inc. v. Lasting Impression I, Inc.*, 543 U.S. 111, 121 (2004). Under their approach, the words "any air pollution agent or combination of such agents" are superfluous because the definition of "air pollutant" would reach exactly the same universe of emissions with or without that language. Moreover, petitioners' expansive construction is refuted by the Act's 1970 amendments. Before those amendments, section 202 authorized EPA to regulate "the emission of *any kind of substance* ... which in his judgment" merited regulation. Pub. L. No. 90-148, 81 Stat. 485, 499 (1967) (emphasis added). In 1970, Congress changed "any kind of substance" to "any air pollutant" and added, in section 202(a), a definition of "air pollutant" that requires such a substance to be an "agent" of "air pollution." Pub. L. No. 91-604, 84 Stat. 1676 & 1690 (1970). As this Court has often observed, there are few principles of statutory construction "more compelling than the proposition that Congress does not intend *sub silentio* to enact statutory language that it has earlier discarded." *I.N.S. v. Cardoza-Fonseca*, 480 U.S. 421, 443 (1987).

Given the plain statutory language, it is not surprising that courts have universally interpreted the Clean Air Act as tackling the problem of dirty air, not global climate change. *See, e.g., Motor & Equip. Mfrs. Ass'n v. EPA*, 627 F.2d 1095, 1117 (D.C. Cir. 1979) ("Congress enacted the Clean Air Act as an attempt *to improve the quality of the air*.") (emphasis added); *Chrysler Corp. v. EPA*, 631 F.2d 865, 869 (D.C. Cir. 1980) (describing carbon dioxide as a "harmless byproduct"). Commentators at the time reflected this view of the Act as concerned with cleaning dirty air rather than influencing the composition of the Earth's atmosphere. *See, e.g.*, Gladwin Hill, *The Politics of Air Pollution: Public Interest and Pressure Groups*, 10 Ariz. L. Rev. 37, 39 (1968) (using the terms "air pollution" and "smog" interchangeably throughout); Joseph D. Coons, *Air Pollution & Government Structure*, 10

Ariz. L. Rev. 48, 52 (1968) (air pollution occurs as the result of concentrations of localized, ground-level contaminants). In fact, *no* case, in almost forty years of history of the Clean Air Act, supports the view, much less suggests, that the statute's measures against "air pollution" were intended to address the phenomenon of global climate change.

2. The Statutory Scheme Does Not Contemplate EPA Regulation.

That Congress did not intend to grant EPA authority to regulate greenhouse gases for global climate change purposes is confirmed by reading the statutory text "in its proper context." *Koons Buick Pontiac GMC, Inc. v. Nigh*, 543 U.S. 50, 60 (2004).

The Clean Air Act establishes an "intergovernmental partnership to regulate air quality in the United States." *Mich. v. EPA*, 268 F.3d 1075, 1078 (D.C. Cir. 2001). The Act is premised on state and local planning that "cleans" the air by bringing local air contaminants to levels at or below the federal standards set by EPA. Specifically, the Act makes EPA responsible for establishing NAAQS, *see* 42 U.S.C. § 7409, which the States then attain and maintain through state implementation plans. *Id.* § 7407. The premise of this framework is that each region (and each metropolitan area) of the country is capable of complying with the NAAQS by adopting regulatory controls that affect local ambient levels of the relevant pollutants. *See Ariz. Pub. Serv. Co. v. EPA*, 211 F.3d 1280, 1285 (D.C. Cir. 2000). Each State controls local emissions "as may be necessary" to achieve attainment in designated, localized non-attainment areas and, as a result, controls may differ from one such area to another. 42 U.S.C. § 7410(a)(2)(A); *see Union Elec. Co. v. EPA*, 427 U.S. 246, 266 (1976).

All of the substances that Congress (and in one instance EPA) has listed as criteria pollutants—lead, sulfur dioxide, oxides of nitrogen, carbon monoxide, particulate matter, and

ozone—present local ambient air pollution problems that can reasonably be addressed on a *local* or *state* level, or at most a regional level. The concentrations of each of these substances vary from place to place, primarily as a result of differences in local emissions, local weather, and topography. Some pollutants, particularly ozone precursors, can transport from one locality to another and thus raise regional concerns. But excessive ozone levels are a local air pollution problem with ambient concentrations *differing* from locality to locality, resulting in discrete ozone non-attainment areas. The local nature of the core problems attacked by the Clean Air Act has been well noted: "Air pollution becomes evident in specific local areas, rather than on a global basis .... The term 'airshed' has come into use to designate such local areas. The principal characteristic of an airshed is that contaminants do not normally cross its boundaries, in either direction, in such amounts or concentrations as to cause significant effects." Coons, 10 Ariz. L. Rev. at 60.

Global climate change, by contrast, involves the entire atmosphere's ability to reflect and retain heat, and is not a localized phenomenon. Greenhouse gases are not like the criteria pollutants for which EPA is required to establish NAAQS because they have relatively long lifetimes, which, in combination with other atmospheric dynamics, cause them to mix uniformly in the atmosphere. Levels of carbon dioxide and other greenhouse gases "over" any particular locality are therefore not influenced by local or upwind emissions. The potential for either adverse or beneficial effects in the United States from motor vehicle carbon dioxide emissions depends on complicated interactions of many variables on the land, in the oceans, and in the atmosphere, occurring around the world across long periods. Analysis of these effects and their relation to the atmospheric concentration of carbon dioxide in the United States would present EPA with "scientific issues of unprecedented complexity in the NAAQS context." Pet. App. A-73.

More significantly, EPA must set NAAQS at a level "requisite to protect the public health" within an "adequate margin of safety." 42 U.S.C. § 7409(b)(1). Because atmospheric concentrations of carbon dioxide and other greenhouse gases are consistent globally, an effective carbon dioxide NAAQS would require the United States to mitigate effects for the entire world in order to mitigate effects for itself. If EPA had authority to set such a standard, it would be unable to consider the cost to the United States of solving global warming for the entire world because consideration of cost is forbidden when EPA establishes a NAAQS. *See Whitman v. Am. Trucking Ass'ns*, 531 U.S. 457, 464 (2001).

Domestic regulation of global climate change is thus impractical under the Act. Moreover, such unilateral action could lead to economic calamities, especially in the face of rapidly increasing emissions from the developing world. For example, China is expected to become the greatest emitter of carbon dioxide by 2015. EPA arguably would need to classify the entire United States as a carbon dioxide nonattainment area, triggering obligations to reduce worldwide carbon dioxide emissions that could cripple the United States economy. Such use of the NAAQS framework demonstrates why Congress could not have possibly intended to grant EPA authority to regulate carbon dioxide as an "air pollutant" under the Act. *Cf. Brown & Williamson*, 529 U.S. at 137 (rejecting FDA jurisdiction over cigarettes in part because "were the FDA to regulate cigarettes and smokeless tobacco, the Act would require the agency to ban them," a result Congress had "foreclosed").

Petitioners do not meaningfully dispute that regulating greenhouse gas emissions for purposes of affecting global climate change cannot be practically accomplished through the NAAQS program. Instead, they argue that the NAAQS program in Title I is separate from the mobile source program in Title II. *See* Pet. Br. 27-29. In their view, the Court should not consider the statutory structure because whether

EPA is required to establish a NAAQS for carbon dioxide and other greenhouse gases is not "before this Court." *Id.* at 29.

In fact, however, section 302's definition of "air pollutant" is central to the operation of the Clean Air Act as a whole. The definition of "air pollutant" applies not only to Title II, which authorizes EPA to regulate motor vehicle emissions, but also to Title I, which requires EPA to establish national ambient air quality standards for "criteria pollutants." 42 U.S.C. § 7408(a)(1)(A). Specifically, Title I of the Act requires the EPA Administrator to designate as a criteria pollutant—and establish a NAAQS for—"each *air pollutant*" that "cause[s] or contribute[s] to air pollution which may reasonably be anticipated to endanger public health or welfare." *Id.* (emphasis added)

Petitioners suggest that under Title I, unlike Title II, EPA may at its discretion not "issue air quality criteria" for air pollutants deemed to endanger public health and welfare. Pet. Br. 28 (arguing that Title I and Title II have different "regulatory triggers"). But that interpretation of the statute has been rejected. *See, e.g., NRDC, Inc. v. Train*, 545 F.2d 320, 327-28 (2d Cir. 1976). If a compound emitted from either a mobile or statutory source qualifies as an "air pollutant" subject to EPA regulation, and if, in the Administrator's "judgment," regulation is appropriate because the pollutant "may reasonably be anticipated to endanger public health or welfare," a NAAQS is "mandatory." *Id.*

The language used in Title I is identical in all material respects to the language used in Title II. *Compare* 42 U.S.C. § 7408(a) *with* 42 U.S.C. § 7521(a)(1). Both convey authority to regulate "*air pollutant[s]*" as defined in section 302(g), provided that, in EPA's judgment, such pollutants "may reasonably be anticipated to endanger public health or welfare." Indeed, the two titles require EPA to implement different sorts of regulations for the same pollutants. Congress included only one additional requirement to Title II's explica-

tion of a criteria pollutant when penning Title I: the pollutant must "[result] from numerous or diverse mobile or stationary sources." 42 U.S.C. § 7408(a)(1)(B). But a motor vehicle, the emissions of which EPA regulates under section 202(a)(1), constitutes precisely the sort of "numerous" and "diverse" "mobile ... [source]" contemplated by Congress in Title I. Regulatory authority over "air pollutants" under Title I and Title II is *coterminous*. Accordingly, if EPA has jurisdiction under section 202(a)(1) to regulate carbon dioxide, it also has jurisdiction under section 108(a)(1), which *requires* establishment of a NAAQS for criteria pollutants.

B. Regulatory History Confirms That EPA Lacks Authority To Regulate Greenhouse Gas Emissions For Climate Change Purposes.

Not only has carbon dioxide never been defined or regulated as a "pollutant" under the Act, the consistent history of regulation under the Act shows quite the opposite. For over thirty years, EPA has been identifying other pollutants and attacking the problems they pose by reducing their quantity, a process that routinely operates by transforming those pollutants into compounds the agency and courts have regarded as clean and "harmless by-products." *Chrysler Corp.*, 631 F.2d at 869 (catalytic converters produce "two harmless byproducts, carbon dioxide and water"); EPA, A Citizen's Guide to Chemical Oxidation 1 (2001), http://www.epa.gov/tio/download/citizens/oxidation.pdf ("Oxidants help change harmful chemicals into harmless ones, like water and carbon dioxide."). Principal among these non-pollutant by-products has been carbon dioxide.

EPA's consistent treatment of carbon dioxide as a non-pollutant is seen in its implementation of section 202(a)(4)(B) of the Act, which requires the Administrator to consider "whether and to what extent the use of any device, system, or element of design causes, increases, reduces, or eliminates emissions of any unregulated pollutants." 42 U.S.C. § 7521(a)(4)(B). EPA is required to undertake this

inquiry to determine if the compliance device creates an unreasonable risk of harm, and if so, the device is banned under section 202(a)(4)(A). This provision was adopted specifically to regulate catalytic converters. If carbon dioxide were in fact a pollutant, then EPA has been obligated since 1978 to consider the harms that carbon dioxide might produce, because the intended effect of catalytic converters is to reduce unburned hydrocarbons and carbon monoxide by increasing carbon dioxide emissions. But EPA has never done so, undoubtedly because it has never understood carbon dioxide to be an "air pollutant." *See, e.g., Zemel v. Rusk*, 381 U.S. 1, 11 (1965) (Congress's "failure to repeal or revise" a statute in face of a long-standing administrative interpretation has been found to be "persuasive evidence that that interpretation is the one intended by Congress"); *Haig v. Agee*, 453 U.S. 280, 297-98 (1981) (same).

A perfect engine—that is, one able to achieve complete combustion—will produce only two things: carbon dioxide and water. *See, e.g.*, D. J. Patterson & N. A. Henein, Emissions from Combustion Engines and Their Control 97 (1972); Daniel Velez, *No Fault Remediation of MTBE*, 26 Wm. & Mary J. Envtl. L. & Policy Rev. 477, 480-81 (2001). But engines are not perfect, and some of the hydrocarbons in gasoline are not fully combusted in the engine. *See* Patterson & Henein, *supra*, at 97; J. Robert Mondt, Cleaner Cars: The History & Technology of Emission Control Since the 1960s 25 (2000). As a result, in addition to emitting carbon dioxide, internal combustion automobiles also emit unburned hydrocarbons (known as "volatile organic compounds"), which are clearly designated as pollutants. *See* Patterson & Henein, *supra*, at 117-29.

EPA has long regulated the emission of unburned hydrocarbons from motor vehicles. *See* Mondt, *supra*, at 81; *see also* Standards for Exhaust Emissions, Fuel Evaporative Emissions, & Smoke Emissions Applicable to 1970 & Later Vehicle Engines, 33 Fed. Reg. 8304, 8306 (June 4, 1968).

To comply with these regulations, manufacturers effectively use two strategies: improve engine technology to achieve more complete combustion, *see, e.g.*, Patterson & Henein, *supra*, at 143, and use catalytic converters, which convert unburned hydrocarbons to water and carbon dioxide. *See* Mondt, *supra*, at 84; 40 C.F.R. § 85.2122(a)(15)(ii)(A) (defining "catalytic converter" as a device that "oxidize[s] hydrocarbon (HC) and carbon monoxide (CO) emissions to carbon dioxide (CO_2) and water (H_2O)"). In either of these events, what would otherwise be emitted as unburned hydrocarbons is converted instead into carbon dioxide, thus increasing the amount of carbon dioxide emitted by the motor vehicle.

Automobiles also emit small quantities of carbon monoxide if there is inadequate oxygen during combustion or when combustion does not proceed for long enough to allow the complete oxidation of all carbon into carbon dioxide. *See* Mondt, *supra*, at 26. Again, there are two ways to address this impurity: improve combustion within the engine so that more carbon is fully oxidized into carbon dioxide, and install catalytic converters that promote the oxidization of carbon monoxide into carbon dioxide before it leaves the tailpipe. *See, e.g.*, EPA, Automobiles and Carbon Monoxide 2 (1993), http://www.epa.gov/otaq/consumer/03-co.pdf. Either option increases the amount of carbon dioxide emitted because carbon monoxide, as a pollutant, has successfully been converted into carbon dioxide, a clean and harmless by-product.

Congress and EPA support these techniques in at least two ways. First, the Clean Air Act requires the use of oxygenated gasoline in carbon monoxide non-attainment areas. *See* 42 U.S.C. § 7545; *see also Exxon Mobil Corp. v. EPA*, 217 F.3d 1246 (9th Cir. 2000). Because carbon monoxide is produced when there is not enough oxygen present during combustion, "[t]he extra oxygen in oxygenated fuels helps ensure that the engine produces carbon dioxide instead of carbon monoxide." Thomas O. McGarity, *MTBE: A Precau-*

tionary Tale, 28 Harv. Envtl. L. Rev. 281, 284 n.10 (2004). Second, "[b]ecause lead emissions interfere with the operation of the catalytic converters" on newer automobiles, EPA "issued regulations requiring the sale of unleaded gasoline for the protection of those devices." *Amoco Oil Co. v. EPA*, 543 F.2d 270, 271 (D.C. Cir. 1976). Given this robust support from EPA and the Congress of several different processes that turn actual air pollutants into carbon dioxide, it is unsurprising that commentators have noted that "society has long encouraged and required automobile manufacturers and stationary sources to achieve more complete combustion to produce carbon dioxide rather than carbon monoxide and other hydrocarbons that are dangerous to human health." Gary E. Marchant, *Freezing Carbon Dioxide Emissions: An Offset Policy for Slowing Global Warming*, 22 Envtl. L. 623, 662 (1992).

In short, for more than thirty years, EPA has never defined carbon dioxide as a pollutant subject to regulatory control. To the contrary, for that same lengthy period of regulatory practice, the agency has presided over an intricate web of regulations that have addressed air pollutants from motor vehicles by invoking and approving industry processes that transform those impurities into clean and harmless by-products such as carbon dioxide and water vapor. This long-standing regulatory practice is dramatically inconsistent with petitioners' claim that carbon dioxide must be classified as a pollutant under the Act without more explicit action from Congress.

C. The Legislative History Contains No Indication That Congress Intended EPA To Regulate Greenhouse Gas Emissions For Climate Change Purposes.

In addition to the Clean Air Act's text and structure, the legislative history further confirms that Congress did not intend to delegate to EPA far-reaching authority to regulate

greenhouse gases for purposes of addressing the phenomenon of global climate change.

The Clean Air Act was commonly understood as authorizing EPA to address the pressing air pollution problems of the day: smog and smoke pollution. For example, Representative Helstoski, one of the Act's key supporters, made remarks that were squarely focused on these issues. *See* 111 Cong. Rec. H25,061, col. 3 & H25,062, col. 1 (Sept. 24, 1965) (citing the example of the New Jersey Turnpike, which was "compelled to close ... at least 20 times a year" because of smog). Similarly, when the architect of the 1970 amendments introduced the bill to the Senate for debate, he stated: "This bill states that all Americans in all parts of the Nation should have *clean air to breathe*, air that will have no adverse effects on their health." 116 Cong. Rec. S32,901 (Sept. 21, 1970) (Statement of Sen. Muskie) (emphasis added).

No reasonable reading of the legislative history leads to the conclusion that Congress intended to have EPA regulate carbon dioxide emissions for purposes of affecting the global climate. To be sure, petitioners have located a few isolated references to climate dating back to 1965. But these isolated references deserve no weight because they are "in no way anchored in the text of the statute." *See Shannon v. United States*, 512 U.S. 573, 583 (1994) ("We are not aware of any case ... in which we have given authoritative weight to a single passage of legislative history that is in no way anchored in the text of the statute.") Nor can "a single outlying statement ... stand against a tide of context and history." *Gen. Dynamics Land Sys., Inc. v. Cline*, 540 U.S. 581, 599 (2004). Here, the legislative history presents more of a tsunami than a tide to refute petitioners' claims about congressional intent, making clear instead that the "common experience," "common usage," and "commonplace conception" of Congress do not support a conclusion that carbon dioxide is an air pollutant. *Cf. id.* at 586-600 (using legislative history

and common usage to interpret the term "age" in the ADEA to mean only "old age").

When Congress first enacted section 202, Congressman Helstoski mentioned that "[it] has been predicted that by the year 2000, the amount of atmospheric carbon dioxide may have increased by about fifty percent; and many believe that this will have a considerable effect on the world's climate." 111 Cong. Rec. H25,061. But Representative Helstoski's brief reference to the potential effects of atmospheric carbon dioxide on climate was not followed by any indication that he thought that the pending legislation addressed the problem. His remarks on the purpose and effect of the bill related only to the goal of cleaner air. *See, e.g.*, 111 Cong. Rec. at H25,061-62.

Likewise, although the 1970 amendments added an express reference to climate, the legislative history does not support the claim that EPA thereby gained authority to promulgate regulations designed to address the atmosphere's ability to manage radiation from the sun. *See* Pub. L. 91-604, § 15(a)(1), 84 Stat. 1676, 1710 (1970), *reprinted in* 1970 U.S.C.C.A.N. 1954, 1997. The statements petitioners cite from the legislative history of the Act's 1977 amendments do not even relate to greenhouse gases, but instead concern "radioactive air pollution from nuclear power plants," H.R. Rep. No. 95-294, at 42, 95th Cong., 1st Sess. (1977), and "fine particulate emissions," which were already regulated under Title I of the Act. *Id.* at 339. During debate on the amendments, Senator Boggs introduced into the record the Council on Environmental Quality's First Annual Report, which explained that "Air pollution alters climate and may produce global changes in temperature.... [T]he addition of particulates and carbon dioxide in the atmosphere could have dramatic and long-term effects on world climate." 116 Cong. Rec. S32,912-16. But no provision was made to regulate this global phenomenon; to the contrary, the Report suggests the federal government should take *multilateral, cooperative*

steps and use *alternative* measures to address the problem of global climate change. *Id.* at S32,917, col. 2. Furthermore, a table in the report reinforces the view that carbon dioxide is not an "air pollutant" because it lists sulfur oxides, hydrocarbons, particulates, nitrogen oxides, and carbon monoxide as pollutants, but not carbon dioxide. *Id.* at S32,912, col. 3.

The legislative history behind the 1990 amendments yields perhaps the clearest statement of all. The amendments originally included a section that explicitly required EPA to set carbon dioxide emission standards for motor vehicles. *See* 136 Cong. Rec. S6479 (1989). But that section was omitted from the ultimate legislation. Senator Symms analyzed the unsuccessful provision as follows:

> A carbon dioxide tailpipe standard in the Committee bill is a clear abuse of the federal motor vehicles emissions standards program, and an unprecedented and not-too-covert attempt to usurp an issue within the jurisdiction of the Senate Commerce Committee. Carbon dioxide *is not an air pollutant*—it possesses no physical, chemical, biological, or radioactive property that presents, in and of itself, a threat to public health or welfare. To regulate such a substance through an emission standard under title II of the Clean Air Act flies in the face of the clear and express purpose of the Act, "to prevent and control *air pollution*.

S. Rep. No. 101-228, at 439 (1990), *reprinted in* 1990 U.S.C.C.A.N. 3385, 3819 (first emphasis added; footnote omitted). Contrary to petitioners' suggestions, *see* Pet. Br. 21, there is no indication whatever that Congress omitted the unsuccessful provision because it believed that EPA already possessed authority under the Clean Air Act to regulate greenhouse gases.

In fact, since 1990, Congress has considered and rejected several bills that would have conferred such authority on

EPA. *See, e.g.*, S. 139, 108th Cong. (2003) ("Climate Stewardship Act of 2003" would have allowed EPA to regulate greenhouse gas emissions (particularly those of CO_2), but failed in the Senate by a 43-55 vote). The issue of global climate change has been the subject of dozens of hearings and briefings before various congressional committees, and regulatory and non-regulatory legislation has been repeatedly introduced and re-introduced in Congress. There is no indication whatsoever that these legislative deliberations occurred in a context of Congress being persuaded that EPA *already had* such authority (without exercising it) under existing law.

In sum, the common understanding and usage evident from the legislative history confirms that Congress did not delegate to EPA the authority to regulate emissions of greenhouse gases when it enacted and amended the Clean Air Act. Carbon dioxide was not considered to be an "air pollutant." Rather, Congress was focused in the Clean Air Act and its later amendments on traditional, local air quality concerns such as smog and acid rain.

D. Petitioners' Interpretation Of EPA's Authority Cannot Be Reconciled With Other Statutes Addressing Climate Change And Fuel Economy Standards.

Given the text, structure, and history of the Clean Air Act, petitioners must seek from Congress the authority they are trying to obtain from the courts. Under petitioners' regime, latent authority in the Clean Air Act would give EPA immense control over the United States' economy, foreign policy, and national security. This country would be forced to make reductions in consumption of fossil fuels that could devastate the economy and scuttle any leverage for a multilateral agreement on climate change. It is a tenet of statutory interpretation, as well as constitutionally informed common sense, that Congress does not "delegate a decision of such economic and political significance to an agency in so cryptic

a fashion." *Brown & Williamson*, 529 U.S. at 160; *see MCI Telecomms. Corp. v. AT&T Co.*, 512 U.S. 218, 231 (1994). In addition, this errant construction cannot be reconciled with the deference EPA is properly afforded based on its consistent construction of its own governing statutes, over decades, as not conferring the authority to go beyond cleaning dirty air to regulating carbon dioxide emissions and the overall composition of the Earth's atmosphere. *See United States v. Mead Corp.*, 533 U.S. 218, 227-31 (2001); *Chevron U.S.A. Inc. v. NRDC*, 467 U.S. 837, 842-45 (1984).

1. Congress Has Addressed Global Climate Change In Other Statutes.

In the past three decades, Congress has held dozens of hearings on the subject of greenhouse gas regulation and has enacted major legislation specifically addressing the issue. In fact, Congress has directly addressed global climate change in no fewer than *six* other statutes. *See, e.g.*, National Climate Program Act, Pub. L. No. 95-367, 92 Stat. 601 (1978); Global Climate Protection Act of 1987, Pub. L. No. 100-204, 101 Stat. 1331 (1987); Global Change Research Act of 1990, 15 U.S.C. § 2931 *et seq.* (1990); Food, Agriculture, Conservation, and Trade Act of 1990, Title XXIV, Pub. L. No. 101-624, 104 Stat. 3359, §§ 2401-2412 (1990); Energy Policy Act of 1992, Pub. L. No. 102-486, 106 Stat. 2776 (1992); Alternative Motors Fuel Act of 1988, Pub. L. No. 100-494, 102 Stat. 2441 (1988). Where, as here, two or more statutes address a specific regulatory issue, "[c]ourts may properly take into account the later Act when asked to extend the reach of the earlier Act's vague language to the limits which, read literally, the words might permit." *NLRB v. Drivers, Chauffeurs, Helpers Local Union No. 639*, 362 U.S. 274, 291-92 (1960); *United States v. Fausto*, 484 U.S. 439, 453 (1988) (same). Here, the history of intensive legislative deliberation makes clear that Congress has created a "distinct regulatory scheme" for the problem of global climate change that would be usurped if EPA were to regulate

carbon dioxide under the Clean Air Act. *Brown & Williamson*, 529 U.S. at 144.

In addition, Congress has established a regulatory framework outside of the Clean Air Act that directly addresses motor vehicle fuel economy and carbon dioxide emissions. The implication of that statutory framework "precludes any role for" EPA under the Clean Air Act. *Brown & Williamson*, 529 U.S. at 144. In particular, in the Energy Policy and Conservation Act, Congress has set forth a detailed regulatory scheme by which the Department of Transportation, through NHTSA, sets mandatory fuel-economy standards at a "*maximum* feasible" level. 49 U.S.C. § 32902(a) (emphasis added). Compliance with the federal fuel-economy standards is measured largely by monitoring carbon dioxide emissions, because there is a direct chemical connection between the amount of fuel an automobile uses and the amount of carbon dioxide it emits. Unlike pollutants regulated by the Clean Air Act, no technology exists to capture or convert carbon dioxide released from motor vehicles powered by gasoline or diesel fuel; it can be reduced only by improving fuel economy. *See* Pet. App. A-79.

The regulatory program established by Congress's enactment of EPCA reflects a political compromise that carefully sets "maximum feasible" fuel economy standards by balancing matters of "environmental [policy,] ... engineering design, safety, national energy policy, international competitiveness and trade." S. Rep. No. 101-228, at 441 (1990), 1990 U.S.C.C.A.N. 3385, 3820 (Sen. Symms). This compromise marks the place where "opposing social and political forces have come to rest." *Chrysler Corp. v. Brown*, 441 U.S. 281, 313 (1979) (noting in the context of interpreting the APA that courts must respect legislative balances set by Congress); *see also Average Fuel Economy Standards for Light Trucks Model Years 2008-2011*, 71 Fed. Reg. 17,566, 17,654 (Apr. 6, 2006) (discussing EPCA's careful balance of policies). EPA regulation of carbon dioxide motor vehicle

emissions is fundamentally at odds with the EPCA program and would shatter that delicate political balance. An EPA standard more stringent than those promulgated under EPCA "would make mute all laws and regulations dealing with corporate average fuel economy (CAFE)" and render the fuel-economy standard "a 'deadwood' artifact of law with no consequence." S. Rep. No. 101-228, at 439 (1990), 1990 U.S.C.C.A.N. 3385, 3820 (Sen. Symms) (discussing failed section 206 of the 1990 Clean Air Act amendments).

It is unlikely that Congress would provide for the comprehensive regulation of motor vehicle fuel economy by NHTSA without addressing EPA's purportedly far greater authority over the subject. *Cf. Chisom v. Roemer*, 501 U.S. 380, 396 n.23 (1991) ("'In a case where the construction of legislative language such as this makes so sweeping and so relatively unorthodox a change as that made here, ... judges as well as detectives may take into consideration the fact that a watchdog did not bark in the night.'") (quoting *Harrison v. PPG Indus., Inc.*, 446 U.S. 578, 602 (1980) (Rehnquist, J., dissenting)). This is hardly an "interstitial matter" Congress would implicitly leave to one agency in such a backhanded manner after expressly and specifically authorizing another agency to set standards pursuant to a mandatory balancing test.

2. When Congress Has Wanted EPA To Address Global Environmental Issues, It Has Created A New Statutory Framework.

Congress has previously dealt with emissions issues relating to non-localized gases that implicate global environmental concerns. For example, when Congress addressed stratospheric ozone depletion it used an *express delegation* under a new regulatory framework: Title VI of the Clean Air Act, 42 U.S.C. §§ 7671-7671q. The addition of Title VI to combat global issues reflects Congress's views about the regulatory limits of Titles I and II of the Act.

Much like carbon dioxide, anthropogenic substances that deplete stratospheric ozone are emitted around the world and are very long-lived. Their upper-atmosphere ozone depleting effects—and the consequences of those effects—occur on a global scale. The problem does not manifest itself in the ambient air, but rather in a depletion of the ozone layer some 26,000 to 52,000 feet above sea level, depending on latitude, and continuing up to approximately 160,000 feet. Because of the unique chemistry of polar stratospheric clouds and pollutants from countries across the globe, ozone holes have developed primarily over the poles of the earth, and the ozone layer continues to deplete on a seasonal basis.

Congress did not regard Titles I or II—or the definitions in section 302—as having *already* delegated authority to EPA to address such global environmental issues. Instead, Congress added specific provisions on stratospheric ozone depletion and urged negotiation of international agreements ensuring global participation to research and regulate stratospheric ozone-depleting substances. *See* 42 U.S.C. §§ 7450-7459 (repealed 1990). These new provisions did not result in meaningful action, however, and Title VI ultimately replaced them in the 1990 amendments, providing that EPA will coordinate with developing countries to implement the Montreal Protocol, 42 U.S.C. § 7671p(b), and *expressly delegating* authority to EPA to regulate specified ozone-depleting substances, *id.* § 7671c-d. Importantly, Congress saw Title VI as "an *expansion of existing statutory authorities*." S. Rep. No. 101-228, at 387 (1990), *reprinted in* 1990 U.S.C.C.A.N. 3385, 3770 (emphasis added). The same holds for any EPA regulation of motor vehicle carbon dioxide emissions—Congress would need to provide the agency with specific statutory authority.

Petitioners note that the 1990 amendments to the Clean Air Act contain a few references to carbon dioxide and global warming generally. *See* 42 U.S.C. § 7403(g); 42 U.S.C. § 7671a(e); Pub. L. No. 101-549, § 821 (1990), *modifying* 42

U.S.C. § 7651k(b) & (c). But in each provision, Congress expressly refused to grant EPA authority to regulate carbon dioxide. *See* 1990 Clean Air Act Leg. Hist. 2667, 2776-78 (Reps. Roe and Smith); Pet. App. A-71-A-72. Each provision of the 1990 amendments relating to carbon dioxide—sections 103(g), 602(e), and 821—calls on EPA not to regulate but to develop information concerning global climate change. Section 103(g) gives the Administrator the authority to research and implement demonstration programs for air pollution prevention. This includes creating "nonregulatory" strategies to control carbon dioxide emissions from stationary sources. 42 U.S.C. § 7403(g). But section 103(g) expressly provides that nothing in the subsection "shall be construed to authorize the imposition on any person of air pollution control requirements."

To further emphasize this point, Congress amended section 103(g) in conference to include the term "nonregulatory" to describe the "strategies and technologies" it was intended to promote. This point is underscored in the House Conference Report and by the fact that the section repeats the phrase "nonregulatory strategies" five times. H.R. Conf. Rep. No. 101-952, at 349 (1990), as reprinted in 1990 U.S.C.C.A.N. 3867, 3881; *see also* 42 U.S.C. § 7671a(e) (directing EPA to determine the "global warming potential" of substances that deplete stratospheric ozone, but containing language similar to section 103(g) stating that it "shall not be construed to be the basis of any additional regulation under this Chapter"). These specific reservations of the power to regulate, carefully added to provisions that instead direct EPA to research and implement demonstration programs, would make no sense if Congress had implicitly given EPA immense and largely unrestricted authority to regulate the composition of the Earth's atmosphere. *Cf. Dir. of Revenue v. CoBank ACB*, 531 U.S. 316, 324 (2001) (rejecting interpretation that would assume "Congress made a radical—but entirely implicit—change" in the statutory scheme).

3. Congress Has Declined To Delegate EPA Authority To Regulate Carbon Dioxide Emissions From Motor Vehicles.

The decision in *Brown & Williamson* is instructive here. There the Court addressed FDA's conclusion that tobacco products constituted "drug delivery devices" and therefore fell within FDA's regulatory jurisdiction. 529 U.S. at 127. Despite language in the statute that arguably supported FDA's position, this Court found that "Congress has directly spoken to the issue" and "precluded the FDA's jurisdiction to regulate tobacco products." *Id.* at 133. Relying on the logical implications of FDA regulation and Congress's tobacco policy—as expressed in other tobacco regulations and repeated refusals to explicitly grant FDA authority—the Court found that Congress had not intended FDA regulation. *Id.* 133-59. In the end, the Court emphasized that it must "be guided to a degree by common sense as to the manner in which Congress is likely to delegate a policy decision of such economic and political magnitude to an administrative agency." *Id.* at 133.

To avoid this Court's conclusion that Congress does not cryptically delegate important issues to agencies, petitioners have argued that because FDA had repeatedly expressed the view it did not have jurisdiction, whereas EPA was silent until the Clinton Administration, *Brown & Williamson* does not apply. This Court, however, found that point to be "not crucial" and not "determinative," using it only to "bolster[] the conclusion" that the separate regulatory regime was based on the lack of FDA authority. *Id.* at 157.

Petitioners also stress the Court's finding in *Brown & Williamson* that FDA regulation would require a total ban on tobacco, whereas EPA regulation of greenhouse gases would only result in new emission standards. Yet such regulation would so dramatically expand EPA's authority and have such far-reaching consequences that Congress would not adopt it obliquely. Moreover, petitioners never come to grips with

the potentially devastating effects of such regulation for the U.S. economy. The production of energy from fossil fuels—the power source for nearly all modes of transportation and about 85 percent of domestic energy—directly results in carbon dioxide emissions. In fact, when considering the United Nations Framework Convention on Climate Change, the Senate found that reductions in carbon dioxide emissions could potentially "cost American workers hundreds of thousands of their jobs and cost the economy more than $90 billion of gross national product" from 1990-2000. 138 Cong. Rec. S17,150-01, S17,155 (Oct. 7, 1992) (Statement of Sen. Craig).

In addition to its economic impact, any regulation of carbon dioxide emissions by EPA has important implications for American foreign policy. Global climate change must be addressed multilaterally. In more than a decade of debate on global climate change, Congress has recognized that coordinated international action, among developing and developed countries, is needed to address the problem adequately. In fact, finding that EPA has implied authority under the Clean Air Act to regulate greenhouse gas emissions would conflict directly with the Department of State's *express statutory authority* to negotiate a global solution to this problem. *See* Global Climate Protection Act of 1987, 15 U.S.C. § 2901 (historical and statutory notes).

This is therefore one of those "extraordinary cases" in which "there may be reason to hesitate before concluding that Congress has intended such an implicit delegation." *Brown & Williamson*, 529 U.S. at 159. In view of the complexity of global climate change and the host of interests that any workable solution must accommodate, it is absurd to presume that Congress implicitly delegated authority to EPA, more than thirty years ago, to address an issue that Congress has struggled with ever since. In sum, Congress to date has declined to give EPA the authority to regulate carbon dioxide, and the Court should respect that decision.

III. EPA Properly Exercised Its Broad Discretion In Declining To Make An Endangerment Finding.

The Clean Air Act does not authorize EPA to regulate carbon dioxide, water vapor, or other greenhouse gases emitted by motor vehicles for purposes of affecting global climate change. The Court therefore need not reach the question whether EPA, as an alternate basis for its decision, properly exercised its broad discretion not to engage in rulemaking. But if this Court were to reach that issue, petitioners still would not prevail, because their argument disregards the broad—and effectively nonreviewable—discretion that EPA enjoys under the statute in making that type of decision.

A. EPA Possesses Broad Inherent Discretion When Determining Whether To Initiate Rulemaking Proceedings.

Agencies have substantial discretion when determining whether to initiate proceedings in response to a petition for rulemaking. EPA's decision not to commence regulation of greenhouse gas emissions is a quintessential and eminently reasonable example of such discretionary decision-making.

Because agencies have finite financial resources and limited human capital, they cannot possibly initiate rulemaking proceedings in response to every petition—meritorious or otherwise—they receive. As this Court recognized in the analogous context of an agency's refusal to initiate enforcement proceedings, agencies must prioritize their regulatory efforts based on "a complicated balancing of a number of factors" that are peculiarly within the agency's expertise. *Heckler v. Chaney*, 470 U.S. 821, 831 (1985). Because an agency must assess whether it "is likely to succeed if it acts," whether the "particular enforcement action requested best fits the agency's overall policies," and "whether the agency has enough resources to undertake the action at all," an agency "is far better equipped" than a court "to deal with the many variables involved in the proper ordering of its priorities."

Id. at 831-32. This Court has therefore concluded that agency decisions not to commence enforcement proceedings are presumptively nonreviewable. *Id.* at 837; *see also Lincoln v. Vigil*, 508 U.S. 182, 193 (1993) (an agency's allocation of funds from a lump-sum appropriation is committed to agency discretion and thus nonreviewable).

This Court has never expressly considered whether the denial of a petition for rulemaking is—like the refusal to initiate an enforcement action—presumptively nonreviewable. *Heckler*, 470 U.S. at 825 n.2 (noting that the question was not presented). *Heckler* and its progeny, however, demonstrate that, *at a minimum*, agencies possess significant discretion in determining whether to commence rulemaking proceedings because such decisions touch on delicate issues—including allocating scarce agency resources and establishing administrative priorities—that generally cannot be reviewed under judicially manageable standards. *See WWHT, Inc. v. FCC*, 656 F.2d 807, 818 (D.C. Cir. 1981) ("only in the rarest and most compelling of circumstances" will a court "overturn an agency judgment not to institute a rulemaking"). As courts have recognized, "an agency's refusal to initiate a rulemaking is evaluated with deference so broad as to make the process akin to non-reviewability." *Nat'l Mining Ass'n v. DOI*, 70 F.3d 1345, 1352 (D.C. Cir. 1995) (internal quotation marks and citations omitted).

Here, EPA relied primarily on the uncertainty in the scientific evidence to conclude that, even if Congress had granted it broad authority to regulate the global climate, it would be inappropriate to begin regulating vehicular greenhouse gas emissions. Notwithstanding petitioners' assertions that a link exists between anthropogenic greenhouse gas emissions and long-term changes in climate, EPA's decision correctly—and prudently—observed that there is much that scientists do not understand about the causal connection between greenhouse gases and the Earth's surface temperatures. As the National Research Council (NRC) concluded in a

2001 report, *Climate Change Science: An Analysis of Some Key Questions*, it is impossible to "rule out that some significant part of" the climate change observed over recent decades is a "reflection of natural variability" in the Earth's temperature. JA 151. In light of the "considerable uncertainty in current understanding of how the climate system varies naturally and reacts to emissions of greenhouse gases and aerosols," the NRC cautioned that "current estimates of the magnitude of future warming should be regarded as tentative and subject to future adjustments (either upward or downward)." JA 152; *see also* Pet. App. A-70 (quoting the conclusion of the United Nations Framework Convention on Climate Change that "there are many uncertainties in predictions of climate change, particularly with regard to the timing, magnitude and regional patterns thereof"). And the NRC ultimately concluded that given "the large and still uncertain level of natural variability inherent in the climate record ... a causal linkage between the buildup of greenhouse gases in the atmosphere and the observed climate changes during the 20th century cannot be unequivocally established." JA 193. Even today, the state of the science is far from certain. *See* Amicus Curiae Brief of Climatologists and Scientists Sallie Baliunas, *et al.* at 5 ("claims in the [amicus brief filed in support of petitioners] that harm from carbon dioxide emissions is 'virtually certain,'" and "that new studies support that certainty, are simply incorrect"); *see also id.* at 8-9 (the atmosphere is a "complicated system," and predictions about the effect of increased emissions ignore the "highly significant" effect of "substantial natural negative feedback mechanisms" that could moderate any warming and "may even be strengthened by higher greenhouse gas concentrations").

These scientific uncertainties are compounded when the focus properly shifts from petitioners' broad claims concerning the potential link between worldwide greenhouse gas emissions and global climate change to the narrow issue of the effect that emissions from new motor vehicles or new

motor vehicle engines within the United States might have on the global climate. Because the *entire* U.S. transportation sector accounts for only seven percent of global fossil fuel emissions, JA 238, EPA was justifiably wary of the scientific link between emissions from a *portion* of that sector and injury to the public welfare from global climate change.

This is not to say that there is a complete absence of scientific evidence suggesting that anthropogenic greenhouse gas emissions are causally linked to global warming. *See, e.g.*, JA 151, 154. But it was reasonable for EPA's environmental experts to conclude that, even if carbon dioxide were an "air pollutant" subject to EPA regulation, scientific uncertainty militates against regulation, at least until EPA has the benefit of ongoing, congressionally funded research on global climate change. The soundness of EPA's conclusion is bolstered by the federal voluntary emissions reduction programs that are already measurably reducing greenhouse gas output in the United States. *See* Pet. App. A-89, A-90. In these circumstances, there is simply no basis for this Court to displace EPA's decision to focus its finite regulatory resources, at least for now, on environmental issues that are free of scientific doubt and not already being addressed through other remedial measures.

Apart from the evidence of scientific uncertainty, EPA also identified several other reasons why, even if Congress had granted it statutory authority to regulate greenhouse gases, it would have denied the rulemaking petition. These reasons included (i) the inefficiency of regulating greenhouse gas emissions from new motor vehicles but not from other emissions sources; (ii) concerns that other countries would increase their greenhouse gas output in response to efforts by the United States to limit emissions; and (iii) the lack of available technology to control emissions of greenhouse gases other than carbon dioxide. *See* Pet. App. A-85-A-87. These additional reasons identified by EPA suggest that the agency would *not* succeed if it attempted to reduce green-

house gas output through regulations directed at emissions from new motor vehicles. *See Heckler*, 470 U.S. at 831 (an agency should consider whether it "is likely to succeed if it acts"). EPA thus made the eminently reasonable determination that, even if carbon dioxide, water vapor, and other greenhouse gases were "air pollutants" within the meaning of the Clean Air Act, EPA's limited "resources are best spent" on other regulatory priorities. *Id.* It would be a profound encroachment upon the agency's well-settled regulatory prerogatives for this Court to disturb that decision.

B. Section 202(a) Affords EPA Discretion To Decline To Regulate Based On Policy Considerations That It Deems Relevant.

EPA's decision also finds support in the language of section 202(a). That statutory provision explicitly grants EPA broad regulatory discretion, reinforcing the soundness of EPA's determination that, even if Congress had granted it statutory authority, it would not begin to regulate greenhouse gas emissions at this time.

This Court's cases make clear that an agency authorized to make discretionary determinations may rely on *any* considerations it deems relevant if the pertinent statute does not expressly preclude reliance on such considerations or set forth an exhaustive list of relevant factors. *See, e.g., INS v. Yueh-Shaio Yang*, 519 U.S. 26, 30 (1996) (there are "no limitations" on factors the Attorney General may consider in determining whether to grant a discretionary waiver of deportation); *Lopez v. Davis*, 531 U.S. 230, 244 (2001) (Bureau of Prisons may deny sentence reductions to all offenders whose crimes involved firearm possession because the statute does not prohibit the agency from relying on discretionary factors). EPA thus enjoys broad discretion when determining whether or when to make an "endangerment" determination under section 202(a), which requires the Administrator to promulgate emissions standards for any "air pollutants" that

"in *his judgment* cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7521(a)(1) (emphasis added).[4]

Petitioners appear to acknowledge that scientific uncertainty is an appropriate ground upon which EPA may rest its refusal to make an endangerment determination, *see* Pet. Br. 41, but they argue that EPA erred when it pointed to concerns about inefficient, piecemeal regulation; possible serious foreign policy repercussions; and the technological infeasibility of regulating greenhouse gas emissions. In particular, petitioners argue that the word "shall" in section 202(a) is an implicit limitation on the types of factors the Administrator may consider. But that word imposes no such limitations because the statute requires the Administrator to exercise "his judgment." 42 U.S.C. § 7521(a). It has long been held that such language is "an express provision for administrative discretion" precisely because the Administrator "shall" take certain action after coming to a judgment. *See Ethyl Corp. v. EPA*, 541 F.2d 1, 20 n.37 (D.C. Cir. 1976) (en banc) (equating the discretion provided by a statute using the term "may" with that afforded by the use of the term "judgment" in section 202(a)(1)). That interpretation is entitled to conclusive

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[4] *See also Webster v. Doe*, 486 U.S. 592, 600 (1988) (holding that a statute authorizing the Director of the CIA to terminate an employee whenever he "shall *deem* such termination necessary or advisable in the interests of the United States" foreclosed judicial review of nonconstitutional issues because the statute "fairly exudes deference to the Director" and there was no practical means for a court to evaluate the soundness of the Director's discretionary determination about national interests). Like the statute in *Webster*, nothing in section 202(a) provides courts with a basis for second-guessing EPA's inherently discretionary judgment not to regulate greenhouse gas emissions at this time. In contrast with EPA regulation of stratospheric ozone levels, which must comply with a detailed statutory framework, 42 U.S.C. §§ 7671-7671q, there is no greenhouse-gas-specific statutory regime to which a court could look when trying to evaluate the propriety of EPA's decision.

weight because Congress has amended the Act—and section 202 in particular—after *Ethyl* without modifying the discretionary "in his judgment" language. *See Lorillard v. Pons*, 434 U.S. 575, 580 (1978) ("Congress is presumed to be aware of an administrative or judicial interpretation of a statute and to adopt that interpretation when it re-enacts a statute without change"). Moreover, to the extent that the clear language of section 202(a) is considered ambiguous, EPA's conclusion that section 202(a) allows it to take regulatory efficiency, foreign policy, and technological limitations into account is a reasonable interpretation of the statute entitled to substantial judicial deference. *See Chevron, U.S.A., Inc. v. NRDC*, 467 U.S. 837 (1984).

Neither *Whitman v. American Trucking Ass'ns*, 531 U.S. 457 (2001), nor *Union Electric Co. v. EPA*, 427 U.S. 246 (1976), upon which petitioners rely, is to the contrary. In *Whitman*, the Court held that EPA may not take cost considerations into account when setting NAAQS under section 109(b)(1) because the Clean Air Act expressly mandates that NAAQS be based on the "information about health effects contained in the technical 'criteria' documents compiled under § 108(a)(2)." *Whitman*, 531 U.S. at 465. Similarly, in *Union Electric*, the Court held that section 110 "provides no basis for the Administrator ever to reject a state implementation plan on the ground that it is economically or technologically infeasible" because "the States may submit implementation plans more stringent than federal law requires" and "the Administrator must approve such plans if they meet the minimum requirements of § 110(a)(2)[.]" 427 U.S. at 265. Unlike sections 109(b)(1) and 110, which significantly constrain EPA's discretion by limiting the considerations the agency may take into account when establishing NAAQS or approving state implementation plans, section 202(a) does not limit the factors EPA may consider when exercising its own judgment to decide whether an endangerment determination is appropriate.

* * *

In order for petitioners to prevail in this case, this Court must disregard well-established limits on Article III standing, overturn Congress's decades-long determination not to grant EPA regulatory authority over greenhouse gases, and displace EPA's determination that, even if Congress had granted it the requisite authority, such regulation would be inappropriate at this time. This Court should reject petitioners' invitation to disavow established standing principles and to second-guess the political branches' policies regarding the complex issue of global climate change. The politically sensitive and scientifically uncertain decision whether to mandate federal regulation of vehicular greenhouse gas emissions properly rests with Congress. This Court should not—and need not—inject itself into that ongoing debate.

CONCLUSION

The Court of Appeals' decision should be affirmed.

Respectfully submitted,

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COMMONWEALTH OF MASSACHUSETTS, *et al.*,

Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,

Respondent.

On Writ Of Certiorari To The United States Court Of Appeals For The District Of Columbia Circuit

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INTRODUCTORY STATEMENT

The CO_2 Litigation Group, which intervened below in support of Respondents Environmental Protection Agency, *et al.* ("EPA"), is an informal group whose members are all trade associations or other organizations representing businesses that would be affected by regulation of emissions of carbon dioxide ("CO_2") and other substances believed by many to contribute to global climate change ("greenhouse gases"). These organizations represent a broad spectrum of U.S. business and industry. Each organization has among its members businesses that burn fossil fuel and other organic matter (such as wood), which unavoidably generates CO_2. In addition, in some cases the organization's members also are involved in: the production or marketing of fuels, both for motor vehicles and for boilers and other "stationary sources"; the manufacture or marketing of fuel-burning equipment; the use of oil or natural gas as a raw material for the manufacture of other chemicals; the oxidation of carbon as a process chemical (as in steelmaking); or business activities dependent on the public's use of fossil-fuel-burning vehicles (such as highway construction and operation of convenience stores).[1]

The organizations comprising CO_2 Litigation Group are: the American Chemistry Council, the American Forest & Paper Association, the American Iron and Steel Institute, the American Petroleum Institute, the American Road & Transportation Builders Association, the Business Roundtable, the Chamber of Commerce of the United

[1] For brevity, this brief sometimes refers to "CO_2 Litigation Group" to mean the members of the trade associations or other organizations that in turn comprise CO_2 Litigation Group.

States of America, the National Association of Convenience Stores, the National Association of Manufacturers, the National Petrochemical and Refiners Association, the Portland Cement Association, the Society of Independent Gasoline Marketers of America, the Specialty Steel Industry of North America, and the Steel Manufacturers Association.

The CO_2 Litigation Group's members believe that global climate change is a highly complex phenomenon, and that many of the statements in Petitioners' brief (and the briefs of many of the *amici curiae*) about its extent and causes are oversimplified and overstate the certainty of its potential future course and effects. The CO_2 Litigation Group's members do agree, however, that the potential for global climate change and the possible role of anthropogenic emission sources in global climate change are important public concerns that warrant ongoing research and consideration by the government of the United States (as well as the governments of other countries and transnational bodies). In fact, many of the CO_2 Litigation Group's members already are taking steps to reduce atmospheric loading of CO_2 and other greenhouse gases from their activities, through voluntary measures such as improving energy efficiency or providing "carbon sinks" where CO_2 is removed from or kept out of the atmosphere (known as "carbon sequestration").

While the ongoing scientific research and political debate may lead to the adoption of mandatory measures to reduce atmospheric loadings of greenhouse gases, as a means to mitigate the potential for global climate change, the CO_2 Litigation Group does not agree with Petitioners that Congress adopted or authorized such mandatory measures over 35 years ago in the Clean Air Act of 1970.

Just as importantly, the CO_2 Litigation Group believes strongly that the regulatory mechanisms in the Clean Air Act, designed to address adverse effects of particular emission sources on the ambient air to which humans, plants, and animals are exposed, are not appropriate for addressing a global problem believed to be caused by concentrations in the global atmosphere of substances that are contributed to (and removed from) the atmosphere by a wide range of human activity and natural processes around the world.

Regulating greenhouse gas emissions under the Clean Air Act in order to mitigate global climate change[2] would subject those emissions to a range of requirements that are either inappropriate or ineffective for that purpose. This reality, ignored or dismissed by Petitioners and their supporters, is a key factor underpinning EPA's

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[2] Some compounds whose emission is believed to contribute to global climate change may also have adverse health effects in the ambient air (unlike carbon dioxide, which is naturally present as a component of ambient air and is essential for most plant life). Methane emissions, for example, might present an explosion risk or adverse health effects at ground level. But regulation of methane as an air pollutant because of those effects does not mean that the Clean Air Act also authorizes regulation of methane emissions for the entirely different purpose of controlling its concentration in the global atmosphere for purposes of mitigating global climate change. Petitioners suggest that EPA's mention of potential global warming effects of methane emissions, in connection with the promulgation of a rule limiting ground-level methane emissions from new landfills, constitutes a determination that greenhouse gas emissions can be regulated for climate change purposes. Pet. Br. at 34, *citing* 61 Fed. Reg. 9905, 9905 (1996) and 63 Fed. Reg. 6426, 6454 (1998). But those EPA Federal Register preamble statements merely recognize that methane emissions, regulated in that rule as air pollutants affecting ambient air quality, may also contribute to global climate change when they result in an increase in the methane concentration of the global atmosphere.

interpretation of its Clean Air Act authorities, and a fatal flaw in Petitioners' efforts to force EPA to regulate greenhouse gas emissions under the existing statutory framework. No matter how serious a concern global climate change may be, that concern does not justify trying to shoehorn global climate change into a regulatory structure designed and enacted by Congress to address different types of problems.

SUMMARY OF ARGUMENT

Petitioners claim that a few isolated words in the Clean Air Act unambiguously authorize a massive new type of regulatory program never even mentioned by Congress. In fact, though, applying traditional tools of statutory construction, what is clear instead is that Petitioners' interpretation is not an appropriate construction of the Clean Air Act, while EPA's interpretation is both permissible and appropriate. Petitioners ignore critical elements of the definition of "air pollutant," including "air pollution agent" and "ambient air." Their interpretation also would make the definition of "air pollutant" internally inconsistent in several respects. Petitioners misconstrue the reference to "weather" and "climate" in the definition of effects on welfare as if those words created new regulatory authority, and contrary to the ordinary meaning of those words.

In considering whether the Clean Air Act clearly authorized regulation of emissions of carbon dioxide and other greenhouse gases for purposes of mitigating global climate change, EPA appropriately considered not just isolated words in the definitions section, but the language

and structure of the regulatory provisions of the Act as a whole. The primary mechanism in the Clean Air Act for improving and maintaining air quality – establishing ambient air quality standards and requiring states to develop measures to control pollutant emissions to ensure those standards will be attained within the state – has no application to atmospheric loadings of greenhouse gases, where an emission of a ton of carbon dioxide in California has the same potential impact on global climate change as a ton emitted in Connecticut . . . or in China.

Recognizing that these and other regulatory provisions make no sense if the definition of "air pollutant" were read to authorize regulation under the Clean Air Act of emissions of greenhouse gases for purposes of mitigating global climate change, EPA reasonably concluded that the isolated words of the statute referenced by Petitioners do not authorize or require a huge, new regulatory program for greenhouse gases, using inappropriate mechanisms. This reading is consistent with the fact that all of the congressional enactments related to greenhouse gases so far have concerned research and data-gathering or other non-regulatory programs, and the fact that Congress has repeatedly considered and rejected proposals to impose limits on emissions of greenhouse gases.

Petitioners argue that the need to address global climate change is so serious that the Court must reject EPA's interpretation of the Act. But no matter how important the issue may be, the Court should not substitute its judgment for the political decisions that the legislative and executive branches have made and continue to make in

addressing this global issue. *See FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 161 (2000).

ARGUMENT

Petitioners claim that Congress, speaking "plainly," has given EPA authority to regulate emissions of CO_2 and other greenhouse gases for purposes of mitigating possible global climate change. Pet. Br. at 17. They claim that delegation to EPA of the power to create a new regulatory program affecting a large portion of human activity in this country came not through provisions of the Clean Air Act addressing possible climate change (since those are all non-regulatory), but through the "straightforward" meaning of two definitions contained in the Act. *Id.* at 12, 15, 17. But even leaving aside the propriety of inferring far-reaching regulatory authority from a technical analysis of a definition provision, Petitioners have failed to show, using "the traditional tools of statutory construction," that the language of the Clean Air Act is unambiguous, or that EPA's interpretation that the Act does not extend to emission controls to address global climate change is an impermissible one. *See Chevron U.S.A., Inc. v. Natural Resources Defense Council*, 467 U.S. 837, 842-43 & n.9 (1984); *Brown & Williamson*, 529 U.S. at 132-33.

I. Petitioners Have Not Demonstrated that Unambiguous Language of the Clean Air Act Gives EPA Authority To Regulate Emissions for Purposes of Mitigating Global Climate Change.

Petitioners claim that their interpretation of EPA's authority under the Clean Air Act is compelled by the

plain meaning of this portion of the definition of "air pollutant" in CAA section 302(g), 42 U.S.C. § 7602(g):

> The term "air pollutant" means any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive (including source material, special nuclear material, and byproduct material) substance or matter which is emitted into or otherwise enters the ambient air.

But Petitioners' interpretation reads both too much and too little into the definition of "air pollutant," ignoring important portions of the language of the definition and supplying words and punctuation not contained therein. The straightforward reading of the definition is that it covers only something that is emitted into the ambient air and which EPA determines causes pollution of the air. And that is the reading that EPA followed in rejecting the rulemaking petition at issue in this case. *See* Pet. App. A-78.

"Air pollutant" is defined to "mean" "any air pollution agent. . . . " *Id.* But Petitioners effectively read "air pollution agent" out of the definition of "air pollutant." They assert that everything falling within the phrase in the definition "including any physical, chemical, biological, radioactive (including source material, special material, and byproduct material) substance or matter which is emitted into or otherwise enters the ambient air" is a subset of "air pollutant agent." But Petitioners also assert that *any and every* physical, chemical, biological, or radioactive substance or matter that enters the air is an air pollutant.[3] Pet Br. at 12-13. Under this reading, the

[3] Note that, although chastising EPA for considering subsequent amendments to the CAA in determining whether greenhouse gases may

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only reason that Congress needed to keep the words "air pollution agent" in the definition at all was to make sure that EPA had authority to regulate "phenomena" that cause air pollution but have no mass, like heat or x-rays.[4] Pet. Br. at 14. Petitioners offer no reference for the novel contention that heat, apparently because it causes hot air, is considered an air pollutant, nor any indication that EPA ever considered its Clean Air Act authority to extend to heat "pollution." The same is true of Petitioners' claim that "air pollutant" includes "ionizing radiation," like ultraviolet light – apparently EPA has never in the past three decades exercised this postulated regulatory authority over non-physical factors that, per Petitioners, was the only reason for Congress' inclusion of the phrase "air pollution agent" in the definition of "air pollutant."[5]

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be regulated as "air pollutants" (Pet. Br. at 22-23), Petitioners themselves rely principally on the "including . . . " portion of the definition of "air pollutant" that was added in the 1977 Clean Air Act Amendments, seven years after Congress defined "air pollutant" as an "air pollution agent or combination of such agents" and defined effects on welfare to include effects on "climate" and "weather." *Compare* Pub. L. 91-604, § 15(a)(1), 84 Stat. 1710 *with* Pub. L. 95-95, § 301(c), 91 Stat. 769.

[4] Under Petitioners' reading of the definition of "air pollutant," the Clean Air Act of 1970 also authorized the regulation of noise – which is something else without mass, like heat, that enters the air from mobile and stationary sources. Yet Congress two years later enacted a statute giving EPA (much less extensive) regulatory authority over noise, the Noise Control Act of 1972, 42 U.S.C. §§ 4901-4918. *Cf.* 42 U.S.C. § 4901 (declaring that "inadequately controlled noise presents a growing danger to the health and welfare of the Nation's population" and explaining that purposes of the act include "to establish a means for effective coordination of Federal research and activities in noise control" and "to authorize the establishment of Federal noise emission standards for products distributed in commerce").

[5] Likewise, the four former EPA Administrators who filed an *amicus curiae* brief in support of Petitioners, although arguing that

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By effectively reading "air pollution agent" in the definition as superfluous, i.e., as imposing no limitation on what may be considered an "air pollutant," Petitioners violate the basic principle that an interpretation of a statute must give meaning to all of its words. *See, e.g., Ratzlaf v. United States*, 510 U.S. 135, 140-41 (1994).[6] Certainly, in such circumstances, Petitioners' interpretation cannot be considered the only permissible one; nor, for the reasons stated herein, is it even a reasonable one. *See Chevron*, 467 U.S. at 844.

Petitioners' reading of the statute also has the effect (counterintuitive, yet essential for their argument) of separating the concept of "air pollutant" from any notion of "polluting" the air. The Compact Oxford English Dictionary defines the verb "pollute" as "contaminate with harmful or poisonous substances." If *anything* entering the ambient air is considered an air pollutant, then even a substance that is beneficial to humans, like oxygen or water vapor, is treated as if it were contaminating the air.[7]

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they always viewed their authority under the Clean Air Act very broadly, give no indication that they ever considered "phenomena" like heat or non-ionizing radiation to be air pollutants.

[6] EPA's reading of the definition does not ignore the necessary meaning of "including," as Petitioners claim. Pet. Br. at 14. A perfectly logical reading is that the language after "including" is meant to provide examples of things that can be "air pollution agents," not things that invariably are. Put another way, if a statute authorized regulation of "drugs used in the treatment of diseases in children, including substances that are ingested, injected, or applied to the skin," presumably no one would assert that the statute authorizes regulation of orange juice or sunscreen.

[7] The *amicus curiae* brief submitted in support of Petitioners by "Climate Scientists," recognizing the absurdity of this outcome, appears to argue that water vapor, although an air pollutant, is an air pollutant whose emissions "do not 'cause, or contribute,' to pollution implicated in

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This illogical result argues strongly against the Petitioners' interpretation of the statutory language. *See, e.g.*, *Tennessee Valley Authority v. Hill*, 437 U.S. 153, 204 (1978); *Shapiro v. United States*, 335 U.S. 1, 31 (1948).

Petitioners also effectively ignore the phrase "which is emitted into or otherwise enters the ambient air" in the definition of "air pollutant" in CAA section 302(g). This focus on ambient air is a key attribute of the Clean Air Act, which was enacted "to speed up, expand, and intensify the war against air pollution in the United States with a view to assuring that the *air we breathe throughout the Nation* is wholesome once again." House Comm. Rep. 91-1146, reporting H.R. 17255, June 3, 1970, 91 Cong. House Report 1146; *Leg. Hist. of the Clean Air Act of 1970* at 18 (emphasis added). EPA is directed to derive National Ambient Air Quality Standards, the cornerstone of air pollution control under the CAA,[8] for "any air pollutant . . . the presence of which *in the ambient air* results from numerous or diverse mobile or stationary sources . . . . " CAA section 108(a)(1)(B), 42 U.S.C. § 7408(a)(1)(B) (emphasis added).[9] "Ambient air" has long been defined by EPA as

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anthropogenic climate change." *Id.* at 11 n.8 (*citing* CAA § 202(a)(1), 42 U.S.C. § 7521(a)(1)). This convoluted new gloss on "air pollutant," which dismisses with the concept of "air pollution agent" altogether for some substances, is only necessitated by Petitioners' overbroad interpretation of "air pollutant" as encompassing anything emitted into the ambient air.

[8] *Union Electric Co. v. EPA*, 427 U.S. 246, 249 (1976) (calling the ambient air quality standards program the "heart" of the CAA).

[9] *See also, e.g.*, CAA section 108(a)(2), 42 U.S.C. § 7408(a)(2) ("Air quality criteria for an air pollutant" must describe all the effects on public health or welfare "which may be expected from the presence of such pollutant in the ambient air, in varying quantities . . . "); CAA section 109(b)(2), 42 U.S.C. § 7409(b)(2) (ambient air quality standards

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"that portion of the atmosphere, external to buildings, to which the general public has access," 40 C.F.R. § 50.1(e), and it "is the statute's term for the outdoor air used by the general public." *Train v. Natural Resources Defense Council*, 421 U.S. 60, 65 (1975).[10]

But the potential adverse effects of greenhouse gas emissions on global climate that Petitioners are concerned about are not from the presence of greenhouse gases in the ambient air, the air we breathe. Rather, it is the overall concentration of those gases in the world's atmosphere as a whole – which is believed to be fairly consistent globally and "well mixed throughout the atmosphere, up to approximately the lower stratosphere" – that many are concerned may be causing global climate change by trapping radiant heat and preventing radiant cooling. Pet. App. A-72 – A-73. EPA's determination that regulation of

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must "protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air"); CAA section 111(a)(7)(B), 42 U.S.C. § 7411(a)(7)(B) (discussing measures to reduce pollution from new sources "before such pollution is emitted into the ambient air").

[10] Because the Act's National Ambient Air Quality Standards provisions by definition address the quality of "national," not international, ambient air, and because those provisions cover only "States" (defined to include only United States territory, CAA sections 107, 302(d), 42 U.S.C. §§ 7407, 7602(d)), the "ambient air" addressed by these provisions is that limited portion of the total global atmosphere that is within our national borders and that people breathe. (*See also* the congressional declaration of the purposes of the CAA, which include protecting "the Nation's air resources" and encouraging state, local, and regional air pollution prevention and control programs. CAA §101(b), 42 U.S.C. § 7401(b).) Thus, sections 108 and 109 of the Act authorize regulation to address adverse effects on public health and welfare that result from the presence of a listed air pollutant in the quantities in which it exists in the United States' ambient-air portion of the total global atmosphere.

greenhouse gas emissions for purposes of mitigating global climate change is not authorized by the Clean Air Act is consistent with the phrase "which is emitted into or otherwise enters the ambient air" in the definition of "air pollutant"; Petitioners' interpretation is not. *Compare* Pet. App. A-72 – A-74 and Jt. App. 128-130, 135 *with* Pet. Br. 12-15.

Petitioners' reading of the definition of "air pollutant" also is inconsistent with the second sentence of that definition, added in the Clean Air Act Amendments of 1990: "Such term includes any precursors to the formation of any air pollutant, to the extent the Administrator has identified such precursor or precursors for the particular purpose for which the term 'air pollutant' is used." CAA section 302(g), 42 U.S.C. § 7602(g) (sentence added by section 108(j)(2) of Pub. L. 101-549, 104 Stat. 2468). If *any* substance that is emitted into or otherwise enters the ambient air is an "air pollutant" under the first sentence of the definition in CAA section 302(g), as Petitioners assert (*see* Pet. Br. at 13-14), then it would be unnecessary to have a second sentence stating that "any precursors to the formation of any air pollutant" are "air pollutants" themselves. Moreover, it would make no sense to say that such precursors are "air pollutants" only to the extent identified by the Administrator of EPA "for the particular purpose for which the term 'air pollutant' is used," if, as Petitioners assert, all substances emitted into the ambient air are "air pollutants," without any consideration of their effect in the air. Thus, Petitioners' interpretation of the definition of "air pollutant" not only fails to give meaning to every word of the definition, by ignoring "air pollution agent or combination of agents" and "ambient air," it ignores an entire sentence of the definition. *Cf. United States v. Nordic*

Village, Inc., 503 U.S. 30, 36 (1992) (courts must construe a statute, so far as possible, to give effect to every word). Far from being a reasonable – let alone the only reasonable – interpretation of that definition, it does not even conform to basic principles of statutory interpretation.[11]

Finally, Petitioners claim that their interpretation of EPA's Clean Air Act authority is compelled by the inclusion of the words "weather" and "climate" in the definition of "effects on welfare" in CAA section 302(h), 42 U.S.C. § 7602(h). Pet. Br. at 15. But that provision does not define "air pollutants" or "air pollution," nor does it expand those terms; it merely lists effects on welfare that should be

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[11] *See Chevron*, 467 U.S. at 843 n.9 (in deciding whether Congress directly addressed a particular issue (step 1), courts may use "the traditional tools of statutory construction"). Petitioners also describe the definition of "air pollutant" as if it were worded differently than it is, referring to that definition as including "physical and chemical matter" emitted into the ambient air (Pet Br. at 12 (emphasis omitted)). But in fact, the statute says "chemical, physical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air." 42 U.S.C. § 7602(g). There is no "or," nor any other conjunction, in the series "chemical, physical, biological, radioactive . . . substance." Nor is there a comma after "matter." Grammatically, then, one could interpret the definition as including (1) any chemical, physical, biological, and/or radioactive substance, or (2) matter which is emitted into the ambient air. CO_2 Litigation Group does not suggest that is what Congress intended, but only that the fact that Petitioners must supply words and punctuation not in the statute to make the definition grammatical is a strong indication that the language of the statute does not unambiguously mandate the regulation of greenhouse gas emissions as Petitioners claim. Similarly, since "chemical" substances are also "physical" ones, as are "biological" and "radioactive" substances, and "radioactive" substances are "chemical" ones as well, the language of the definition of "air pollutant" might equally well be described as redundant as clearly "bespeak[ing] breadth." *Cf.* Pet. Br. at 12-13.

taken into account when regulating an air pollutant. Moreover, the dictionary definition of "climate" is "the general weather conditions usually found *in a particular place*," Cambridge Dictionary of the American Language (emphasis added), or "the meteorological conditions, including temperature, precipitation, and wind, that characteristically prevail *in a particular region*," American Heritage Dictionary of the English Language, Fourth Edition (2000) (emphasis added). There is nothing to suggest that Congress, over 35 years ago, intended instead to mean "global climate."[12]

II. EPA's Interpretation of Its Limited CAA Authority To Address Global Climate Change Is Reasonable and Consistent with the Remainder of the Statute

One of the traditional tools of statutory construction that EPA applied in assessing whether the definitions section of the Clean Air Act give it authority to regulate emissions of greenhouse gases for purposes of mitigating global climate change was to look to the text and structure of the remainder of the statute, and in particular to whether such an interpretation of the definitions would be

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[12] Additionally, Petitioners' all-encompassing interpretation of "air pollutant" is particularly problematic regarding effects on "weather." Many types of "matter" as well as non-physical "phenomena" that "enter the ambient air" affect weather, such as wind, humidity, and static electricity. Under the interpretation of the definitions of "air pollutant" and "welfare" advocated by Petitioners, EPA would have authority to regulate these natural materials and phenomena that affect weather as "air pollutants" (and, under Petitioners' reasoning, if those materials or phenomena could reasonably be anticipated to endanger public health or welfare, EPA would be required to regulate them). *Cf.* Pet. Br. at 13-15, 35-38.

reasonable in light of the types of measures to address air pollution that EPA is authorized to take under the Clean Air Act. Pet. App. at A-72 – A-75; *cf. Davis v. Michigan Dept. of Treasury*, 489 U.S. 803, 809 (1989) ("It is a fundamental canon of statutory construction that the words of a statute must be read in their context and with a view to their place in the overall statutory scheme."); *United States v. American Trucking Ass'ns*, 310 U.S. 534, 543-44 (1940) (looking to whether an interpretation of statutory terms would lead to futile or absurd results when applied to the remainder of the statute, regardless of how clear the words may be on "superficial examination"). The principle that words of a statute must be interpreted in light of the remainder of the statute, "while not an inescapable rule, is often wisely applied where a word is capable of many meanings in order to avoid the giving of unintended breadth to the Acts of Congress." *Jarecki v. G.D. Searle & Co.*, 367 U.S. 303, 307 (1961). "A court must therefore interpret the statute as a symmetrical and coherent regulatory scheme and fit, if possible, all parts into an harmonious whole." *Brown & Williamson*, 529 U.S. at 133 (quotations and citations omitted).[13]

As EPA correctly noted, its regulatory authorities under the Clean Air Act were not designed with mitigation of global climate change in mind, and many of them would be inappropriate and ineffective for that purpose. Pet. App. at A-72 – A-74. If EPA and states were forced to regulate greenhouse gas emissions using those regulatory

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[13] *See also Whitman v. American Trucking Ass'ns*, 531 U.S. 457, 468 (2001) ("Congress, we have held, does not alter the fundamental details of a regulatory scheme in vague terms or ancillary provisions – it does not, one might say, hide elephants in mouseholes.").

authorities, the result would be inefficient control measures with huge costs and economic dislocations.

A. Incompatibility Between Global Climate Change and Clean Air Act Regulatory Programs

As explained above, the most far-reaching aspect of the CAA regulatory scheme is the establishment and implementation of National Ambient Air Quality Standards ("NAAQS").[14] (That regulatory scheme was addressed by the Court most recently in *Whitman v. American Trucking Ass'ns*, 531 U.S. 457 (2001); *see also Train v. Natural Resources Defense Council*, 421 U.S. 60 (1975).)

The necessary first step in – and the trigger for – the process of establishing NAAQS for an air pollutant is placing it on a list of air pollutants established under CAA section 108(a)(1), 42 U.S.C. § 7408(a)(1). That section requires the Administrator of EPA to publish a list that includes each air pollutant:

> (A) emissions of which, in his judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare;[15]

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[14] *Union Electric*, 427 U.S. at 249; *see also* CAA § 202(i)(2)(A), 42 U.S.C. § 7521(i)(2)(A) (directing EPA to examine the need for further motor vehicle emission reductions "to attain or maintain" NAAQS).

[15] As discussed at p. 28, *infra*, this language is identical to the language describing the judgment the Administrator must make to set emission standards for motor vehicles under CAA § 202(a)(1), 42 U.S.C. § 7521(a)(1).

> (B) the presence of which in the ambient air results from numerous or diverse mobile or stationary sources; and
>
> (C) for which air quality criteria had not been issued before December 31, 1970, but for which he plans to issue air quality criteria under this section.

Id. Within twelve months after including such an air pollutant on this list, EPA must issue air quality criteria for the air pollutant which "accurately reflect the latest scientific knowledge useful in indicating the kind and extent of all identifiable effects on public health or welfare which may be expected from the presence of such pollutant *in the ambient air.*" CAA § 108(a)(2), 42 U.S.C.§ 7408(a)(2) (emphasis added). For this reason, pollutants included on the section 108(a)(1) list are referred to as "criteria pollutants."

At the same time that it issues air quality criteria for a newly listed criteria pollutant, EPA must also promulgate NAAQS for the pollutant under section 109 of the CAA, 42 U.S.C. § 7409. Primary NAAQS establish concentrations of a criteria pollutant that must be attained and maintained in the ambient air in order to protect the public health, based on the criteria established under section 108(a)(1) for the pollutant and allowing an adequate margin of safety. CAA § 109(b)(1), 42 U.S.C. § 7409(b)(1).

Establishment of NAAQS in turn sets in motion an enormously complex and extensive regulatory process. Under the Act's provisions for implementing NAAQS, each State has "the primary responsibility" for attaining and maintaining the NAAQS within its borders. CAA § 107(a),

42 U.S.C. § 7407(a); *see id.* § 110, 42 U.S.C. § 7410 (setting out requirements for State plans to implement the NAAQS); *id.* § 101(a)(3), 42 U.S.C. § 7401(a)(3), (stating Congress' finding that "air pollution control at its source is the primary responsibility of States and local governments"). The Act provides that each State, subject to EPA review and approval, is to designate as a "nonattainment" area any area within that State "that does not meet (or that contributes to ambient air quality in a nearby area that does not meet)" the NAAQS. CAA § 107(d)(1)(A)(i), 42 U.S.C. § 7407(d)(1)(A)(i). Other areas are designated "attainment" if they meet the NAAQS or "unclassifiable" if information is unavailable to classify them as meeting or not meeting it. Under the Act, each State fulfills its "statutory role as [the] primary implementer[] of the NAAQS"[16] within that State through an implementation plan (called a State implementation plan or "SIP") that "specif[ies] the manner in which national . . . ambient air quality standards will be achieved and maintained within . . . such State." CAA § 107(a), 42 U.S.C. § 7407(a).

In other words, the statutory scheme assigns to each State the primary role in implementing any NAAQS by adopting and enforcing emission control measures to limit the presence of criteria air pollutants in the ambient air within its borders to levels necessary to attain and maintain the air quality levels set by the NAAQS.[17] The statute

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[16] *Whitman*, 531 U.S. at 470 (emphasis omitted) (*citing* CAA §§ 107(a), 110, 42 U.S.C. §§ 7407(a), 7410).

[17] If a State fails to develop and submit a SIP in a timely way, the Administrator must promulgate a "Federal implementation plan" or "FIP," which takes the place of the SIP in that State. CAA § 110(c)(1), 42 U.S.C. § 7410(c)(1).

also contains mandatory sanctions for states that fail to submit or implement adequate SIPs, including a possible prohibition on issuance of federal highway funding to the state and a requirement that emissions from all new and modified major sources be offset by a reduction of emissions at existing sources at least twice as large. CAA §§ 110(m), 179(b), 42 U.S.C. §§ 7410(m), 7509(b).

In addition to imposing controls on existing sources through SIPs or FIPs, state and EPA regulatory authorities also are directed to impose requirements on the construction of new major sources of air pollution and the modification of existing major sources. CAA §§ 160-169, 42 U.S.C. §§ 7470-7479 (Prevention of Significant Deterioration ("PSD") requirements for areas attaining NAAQS); and CAA section 173, 42 U.S.C. § 7503 (new source review ("NSR") requirements for areas not attaining NAAQS). Among other things, these preconstruction permitting programs required by the Act mandate that new or modified sources utilize the Best Available Control Technology (in attainment areas), CAA §§ 165(a)(4), 169(3), 42 U.S.C. §§ 7475(a)(4), 7479(3), or meet even more stringent Lowest Achievable Emission Rates (in non-attainment areas), CAA §§ 171(3), 173(a)(2), 42 U.S.C. §§ 7501(3), 7503(a)(2). In areas that have been designated as not attaining the NAAQS, new or modified sources also must provide "emission offsets" -- reductions in pre-existing emissions of the pollutant that would more than offset the increased emissions of the pollutant from the new or modified source. CAA § 173(a)(1)(A) and (c), 42 U.S.C. § 7503(a)(1)(A), (c).

The Clean Air Act also requires EPA to establish standards of performance for new or modified stationary sources of any air pollutant, not just those criteria pollutants covered by NAAQS. CAA § 111(a)(3) (definition of

stationary source), § 111(b) (standards for categories of sources), 42 U.S.C. §§ 7411(a)(3), (b). EPA must prepare a list of categories of stationary sources of air pollutants, including any category of sources which, in the Administrator's judgment, "causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare." CAA § 111(b)(1)(A), 42 U.S.C. § 7411(b)(1)(A). EPA is then required to promulgate new source performance standards ("NSPS") for each such category of sources, requiring that emissions of air pollutants reflect the performance of the best demonstrated system of emission reduction. CAA §§ 111(a)(1) and (7), 42 U.S.C. §§ 7411(a)(1) and (7). If the pollutant regulated is not subject to a NAAQS, then the statute also requires states to develop programs to control existing sources in the same source categories for which NSPS have been promulgated. CAA § 111(d), 42 U.S.C. § 7411(d).

None of these regulatory authorities makes sense if the "air pollutant" to which they are applied is CO_2 or another greenhouse gas being regulated for the purpose of mitigating potential global climate change. Since the projected effect of greenhouse gas emissions on climate change is a function of changes in the global atmosphere, rather than local or regional air quality, and it is the aggregate contribution of all greenhouse gas emissions around the world to global atmospheric greenhouse gas concentrations that is believed by many to cause global climate change, notions of attaining or not attaining an ambient air quality standard within a state or air quality control region are inapplicable. *See* Pet. App. at A-72 – A-74. If, as Petitioners seek, the Clean Air Act were used to reduce atmospheric loadings of greenhouse gases from sources in the United States (or, to put it another way, if

Petitioners are correct that current atmospheric concentrations of greenhouse gases are higher than the concentration needed "in order to protect the public health," CAA § 109(b)(1), 42 U.S.C. § 7409(b)(1)), then the entire country would be a nonattainment area for any greenhouse gas NAAQS. Distinctions in the statute between attainment and nonattainment areas would be meaningless. More importantly, because atmospheric concentrations of greenhouse gases would be outside the control of any individual source or any individual state, no state, regardless of how stringent its State Implementation Plan was, could demonstrate attainment of the NAAQS. *See* Jt. App. 130. Thus, sanctions for nonattainment of such a standard would be unavoidable for all states, a result that Congress could not have intended.

In any event, EPA would have no rational basis for establishing NAAQS for CO_2, i.e., a local, ambient concentration of CO_2 that could be determined to be "requisite to protect the public health" with "an adequate margin of safety," CAA § 109(b)(1), 42 U.S.C. § 7409(b)(1). That is because: (1) no attempt to meet a particular concentration of CO_2 in a state's ambient air could be shown to protect public health from a global phenomenon believed to be a function of the average concentration of greenhouse gases in the global atmosphere and of worldwide loadings of greenhouse gases and (2) in any case there is no agreement on what concentration of CO_2 in the global atmosphere (in combination with other greenhouse gases) is sufficiently protective or optimal for the global climate. *See* Jt. App. 161, 202-205 (describing uncertainties and value judgments affecting the ability to set a "safe" level for greenhouse gas concentrations in the ambient air). "The differences among climate model projections are

sufficiently large to limit the ability to define an 'acceptable concentration' of atmospheric greenhouse gases." *Id.* at 204; *see also* Pet. App. A-73 (complexities of global climate "would present scientific issues of unprecedented complexity in the NAAQS context"). Thus, the concept of a NAAQS, established by Congress as the centerpiece of Clean Air Act regulation, just does not fit CO_2 and other greenhouse gases. *Cf. Union Electric*, 427 U.S. at 249.

Nor would the Clean Air Act provisions requiring new or modified sources to reduce emissions to the greatest degree achievable and to obtain emission offsets have any apparent public policy justification with respect to CO_2, given that CO_2 is not, in and of itself, a harmful substance when emitted into or residing in the ambient air, but in fact constitutes an important constituent of the atmosphere that plays an essential role in life on Earth.[18] Unlike existing criteria air pollutants, which are agents of pollution according to the common meaning of "pollution" (making the air contaminated or impure) and for which further reduction of emissions and ambient concentrations

[18] There are also numerous other provisions of the CAA that would be inappropriate or meaningless if applied to greenhouse gases to address global climate change. *See, e.g.*, CAA § 165(a)(7), 42 U.S.C. § 7475(a)(7) (requiring new facilities emitting major amounts of air pollutants (*see* CAA § 169(1), 42 U.S.C. § 7479(1)) to monitor their emissions' effects "on air quality in any area which may be affected by [those] emissions" – which, in the case of greenhouse gases, would be the entire world); CAA § 123, 42 U.S.C. § 7423 (allowing a source's air pollutant emission limitations to be relaxed to some extent due to the height of its stack, which affects ambient air concentrations downwind of the stack, but not concentrations in the global atmosphere).

always has at least some theoretical benefit, reducing greenhouse gas emissions will not always be beneficial.[19]

In evaluating whether the Clean Air Act authorizes regulation of greenhouse gas emissions for climate change mitigation purposes, EPA looked at these disconnects between the regulatory systems Congress had established and the nature of global climate change and the potential role of greenhouse gas emissions, concluding that Congress could not have intended such ineffective and inappropriate regulatory mechanisms to be applied to greenhouse gas emissions. Pet. App. A-72 – A-74; Jt. App. 128-30. In light of the incompatibility of the remainder of the statute with Petitioners' interpretation of the definition of "air pollutant," EPA's determination not to regulate greenhouse gas emissions under the Clean Air Act was consistent with this Court's guidance on statutory interpretation and is entitled to deference. *See, e.g.*, *American Tobacco Co. v. Patterson*, 456 U.S. 63, 71 (1982) ("Statutes should be interpreted to avoid untenable distinctions and unreasonable results wherever possible."); *Tennessee Valley Authority v. Hill*, 437 U.S. 153, 204 (1978) ("[Frequently] words of general meaning are used in a statute, words broad enough to include an act in question, and yet a consideration of the whole legislation, or of the circumstances surrounding its enactment, or of the absurd

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[19] Also, similar to the Clean Air Act program for reducing acid deposition over the northeastern United States, requiring some sources to reduce their greenhouse gas emissions to the greatest extent possible (which might be appropriate if the goal were to minimize the impact of the individual source on the ambient air) would almost certainly not be an economically efficient way to achieve a desired reduction in average greenhouse gas concentrations in the global atmosphere. *See* pp. 31-32, *infra*.

results which follow from giving such broad meaning to the words, makes it unreasonable to believe that the legislator intended to include the particular act.") (Powell, J., dissenting) (internal quotes and citation omitted).

B. The Adverse Economic and Political Consequences of Forcing Global Climate Change into the Clean Air Act Regulatory Framework Would Be Enormous.

If Petitioners' succeed in their view that the Clean Air Act definition of "air pollutant" is broad enough to encompass regulation of greenhouse gas emissions for purposes of mitigating global climate change, then it is highly probable, at least as Petitioners see it, that all of the foregoing Clean Air Act regulatory authorities would be triggered, no matter how inappropriate or ineffective they might be. Because generation of CO_2 is an unavoidable result of the combustion of fossil fuels, relied on for transportation and electric power generation by the vast majority of American businesses and individuals, attempts to apply the Clean Air Act authorities to greenhouse gas emissions would place an extraordinary burden on federal and state regulators, regulated businesses, and the economy and public as a whole. That burden is heightened by the fact that, at present, unlike most pollutants regulated under the Clean Air Act, technologies are not currently available to remove CO_2 from the emissions from fossil fuel combustion. Pet. App. A-76 – A-78, A-87.

Since it is hard to imagine how NAAQS and SIP requirements and other regulatory provisions of the Act would be applied to greenhouse gases, it is impossible to

project exactly how great this burden would be, but it would undoubtedly be huge.[20] (*Amicus Curiae* Calpine Corporation, supporting Petitioners, offered a projection by the private National Commission on Energy Policy that – even if all of the aggressive and innovative measures recommended by that group were implemented and were successful – the cost of reducing greenhouse gas emissions would be $42 billion in 2020. Calpine Brief at 8.) Yet even with the huge cost and economic dislocation involved in reducing emissions that currently are essential to our way of life, there is no certainty that any level of greenhouse gas emission reductions in the United States would prevent adverse effects from global climate change, especially given the growing contribution to global atmospheric loadings from other countries. Pet. App. A-83 – A-86. In its decision denying the petition to regulate greenhouse gas emissions from motor vehicles, EPA correctly observed that this is an area where EPA must be cautious about "using broadly worded statutory authority to regulate in areas raising unusually significant economic and political issues. . . . " Pet. App. A-68, A-76, *citing Brown & Williamson*, 529 U.S. 120.

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[20] For example, EPA's report to Congress under section 812 of the Clean Air Act Amendments of 1990, *The Benefits and Costs of the Clean Air Act, 1970 to 1990*, Oct. 1997, identified capital expenditures and operating expenses that stationary sources incurred during the first 20 years of the Clean Air Act. Since most of the requirements and expenditures for existing sources to comply with the CAA stem from SIPs (which in turn implement NAAQS), these cost estimates give a sense of the impact the existing NAAQS have had on businesses and the economy. EPA estimates that capital expenditures for stationary sources in the 1980s were $4-5 billion each year, and operating and maintenance expenditures each year were between $5 and 9 billion. *Id.* at A-10. Not surprisingly, EPA found that these costs have resulted in increased prices of goods and decreased demand. *Id.* at A-24-25.

Petitioners claim that a favorable resolution of the issues they present in this case "will not mandate regulation of air pollutants associated with climate change, nor will it dictate a particular answer to the question whether such pollutants are endangering public health or welfare." Pet. Br. at 3. They also assert that the decision they are seeking from the EPA, that greenhouse gas emissions constitute air pollutants emitted by motor vehicles which may reasonably be anticipated to endanger public health or welfare, under CAA § 202(a)(1), 42 U.S.C. § 7521(a)(1), is entirely separate from and has nothing to do with the regulation of air pollutant emissions from stationary sources under the NAAQS provisions and other stationary-source requirements of the Clean Air Act. Pet. Br. at 27-29.

These arguments are disingenuous at best. The question Petitioners present here – whether EPA has authority to regulate greenhouse gases associated with climate change under CAA section 202(a)(1), 42 U.S.C. § 7521(a)(1) – can be answered in the affirmative only if (1) greenhouse gases, as they may affect global climate change, are "air pollutants" as defined in CAA section 302(g) (a definition that applies to both mobile source and stationary source provisions of the Act); and (2) the Administrator, in his judgment, determines that emissions of greenhouse gases from motor vehicles cause or contribute to air pollution "which may reasonably be anticipated to endanger public health or welfare." CAA § 202(a)(1), 42 U.S.C. § 7521(a)(1). As to (1), Petitioners claim that an affirmative answer is straightforward and unavoidable. Pet. Br. at 8, 12-15. As to (2), Petitioners asserted in their petition for writ of *certiorari* that global climate change is "the most pressing environmental challenge of our time"

(Petition at 22), that there "can be no reasonable debate about the exceptional importance of the problem of climate change" (*id.* at 23), that the "scientific basis for concern is well documented in the administrative record, including through various official government reports" (*id.* at 23 n.10), that "air pollutants associated with climate change are accumulating in the atmosphere at an alarming rate" such that "the window of opportunity in which we can mitigate the dangers posed by climate change is rapidly closing" (*id.* at 25), that "a delay in implementing emission reductions will result in increased extent and magnitude of adverse impacts" (*id.*), and so forth. It is clear that Petitioners believe that, if they succeed in convincing the Court to order EPA to evaluate greenhouse gases as "air pollutants" under section 202(a) of the Clean Air Act, an "endangerment finding," compelling regulation of new motor vehicle emissions of greenhouse gases, will be unavoidable.[21]

Likewise, Petitioners' actions make it perfectly clear that at least many of the Petitioners believe that succeeding in the instant case would force EPA to apply the stationary source provisions of Title I of the Clean Air Act to non-vehicular greenhouse gas emissions, for purposes of attempting to mitigate global climate change. As explained

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[21] Some of the *amici curiae* supporting Petitioners are even more forthcoming on this point. *See, e.g.*, Brief of *Amicus Curiae* State of Delaware at 23 ("it is obvious that there are severe actual and imminent dangers attributed to global climate change. . . . EPA has a duty to regulate such emissions."); Brief of *Amici Curiae* Climate Scientists . . . at 27 (evidence supporting an endangerment determination is "sufficient" and "compelling"); Brief of *Amici Curiae* U.S. Conference of Mayors at 28 n.49 ("the science of global warming points to only one answer to [the endangerment] question").

above, the trigger for development of the ambient air quality standards for a substance, which are then implemented through the elaborate NAAQS program, is that the substance be an "air pollutant" the emissions of which "cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare. . . . " CAA § 108(a)(1)(A). This statutorily required finding for development of NAAQS is virtually identical to the endangerment finding for mobile sources under CAA § 202(a)(1) that Petitioners clearly see as inevitable.[22]

Petitioners argue that EPA should not have considered the infeasibility of using the Clean Air Act's stationary source regulatory provisions to control greenhouse gas emissions for global climate change purposes in assessing whether the Act authorizes EPA regulation of greenhouse gases from motor vehicles, because, Petitioners claim, the issues in the instant case are unrelated to potential regulation of greenhouse gas emissions from stationary sources. Pet. Br. 9, 28-29. This is particularly surprising, given the past and pending actions of some of the Petitioners. In 2003, Massachusetts, Maine, and Connecticut filed suit against EPA in U.S. District Court for the District of Connecticut, seeking an order concluding that EPA already had made findings about the risks of global climate change sufficient to create a mandatory duty for EPA to list CO_2 as a criteria pollutant under CAA section 108, triggering an obligation to promulgate NAAQS for CO_2.

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[22] *Accord*, Brief of *Amicus Curiae* Calpine Corporation at 2 ("the language of § 202(a)(1), 42 U.S.C. § 7521(a)(1), that triggers the process of regulating motor vehicle emissions is identical to language elsewhere in the CAA that initiates various processes for regulating emissions from industrial sources.").

Commonwealth of Massachusetts, et al. v. Horinko, D. Conn. No. 3:03CV984(PCD). A portion of that complaint is included in the Appendix to this brief as Appendix A, p. App. 1.

When EPA issued its denial of the petition for rulemaking that is the subject of the instant case, the three states dismissed their District of Connecticut case without prejudice, concluding that "the scope of EPA's authority" "to regulate greenhouse gases" "is now better presented to the D.C. Circuit." *See* Appendix B, pp. App. 11-12. The three states told the District Court that they "intend to refile this case upon a decision by the D.C. Circuit rejecting EPA's position that it lacks authority to regulate greenhouse gases (or a decision declining to reach the issue)." *Id.* (These three states have not yet re-filed their complaint, presumably because this appeal of the D.C. Circuit's decision is pending.)

Similarly, earlier this year, 12 of the Petitioner states and municipalities in the instant case filed a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit challenging EPA's promulgation of revised New Source Performance Standards under CAA § 111, 42 U.S.C. § 7411, for electric utility, industrial, and commercial boilers ("boiler NSPS").[23] D.C. Cir. No. 06-1148, consolidated with other petitions as *Coke Oven Environmental Task Force v. U.S. EPA*, No. 06-1131 (and consolidated cases). The states and municipalities filed a statement of issues to be raised that listed, as one of their two issues: "Does the United States Environmental Protection Agency (EPA) have the authority to regulate

[23] 71 Fed. Reg. 9865 (Feb. 27, 2006).

emissions of carbon dioxide from stationary sources under section 111 of the Clean Air Act, 42 U.S.C. § 7411, based on the effect of carbon dioxide on public health or welfare, which encompasses, among other things, impacts on climate and weather?" *See* Appendix C, p. App. 15. (Environmental advocacy groups, including a number of the Petitioners, filed a similar petition for review of the boiler NSPS and a similar statement of issues. D.C. Circuit Case. No. 06-1149; *see also* Appendix D, pp. App. 20-23.) In fact, numerous parties who commented on the proposed boiler NSPS, including a number of the Petitioners, argued that the current knowledge of global climate change warrants a conclusion that emissions of CO_2 and other greenhouse gases from boilers "are reasonably anticipated to endanger public health and welfare," and therefore they must be subject to emission limitations in the boiler NSPS. *See* 71 Fed. Reg. at 9869.

The parties to that litigation have since jointly asked the D.C. Circuit to sever and hold in abeyance the portion of the petitions for review claiming that EPA should have published new source performance standards for greenhouse gas emissions, because the question presented in the case before this Court "regarding whether EPA has the legal authority to regulate . . . greenhouse gases under the Clean Air Act may be dispositive of some or all of the carbon dioxide and other greenhouse gas issue [*sic*] raised by State and Environmental Group Petitioners in these consolidated cases." Appendix D, p. App. 23.

In short, many of the Petitioners have taken actions that explicitly recognize the connection between a determination of EPA's authority and duties with respect to greenhouse gas emissions from motor vehicles and EPA's regulation of greenhouse gas emissions from stationary

sources. Petitioners' suggestion that there is no legal connection between the two should be rejected, and the Court should find that it was reasonable for EPA, in interpreting its authority under the Clean Air Act, to consider whether regulation of greenhouse gas emissions for purposes of mitigating global climate change makes sense when applied to the regulatory authorities for both mobile sources and stationary sources contained in the Clean Air Act.

III. Congress Has Yet To Enact the Regulatory Program Petitioners Ask this Court To Find.

In addition to looking at the entire Clean Air Act and considering the incompatibility of the regulatory authorities that Congress laid out for air pollutants in the Act with the purpose of reducing global atmospheric loadings of greenhouse gases, EPA also reasonably considered those actions that Congress *had* taken with respect to climate change and other similar issues. Pet. App. A-70 – A-75. When faced with a different type of environmental concern, depletion of the stratospheric ozone layer by man-made chemicals, Congress added a whole new set of provisions to the Clean Air Act, first as a separate subtitle to Title I and later as an entirely new Title VI, rather than concluding that the other Clean Air Act regulatory authorities were sufficient. Pet. App. A-71 – A-72.

Similarly, when Congress addressed the growing concerns about "acid rain," the deposition of acidic compounds over a wide area of the northeastern United States from long-distance transport of air pollutants, Congress developed a whole new regulatory approach, enacted as Title IV of the Clean Air Act Amendments of 1990 (42

U.S.C. ch. 85 subch. IV-A). Since the acid rain problem was the result of total acid deposition rather than the specific impacts of a particular emission source, Congress addressed it through an emissions cap and emissions trading system that would, in contrast to pre-existing Title I regulatory authorities, allow for the reduction of total acid deposition from numerous emission sources to be achieved economically by controlling the most easily controlled sources. *See* CAA §§ 401, 403-405, 42 U.S.C. §§ 7651, 7651b-7651d; *see also* H.R. Rep. 101-490, pt. 1, at 356, *A Legis. Hist. of the CAA Amendments of 1990*, S. Prt. No. 103-38, at 3021, 3388 (1993) ("1990 Legis. Hist."). These specific congressional responses to different types of national or global atmospheric problems contrast starkly with Petitioners' claim that an even broader new climate change program should be inferred from the definitions section of the Act.[24]

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[24] An *amicus curiae* brief filed by four former Administrators of EPA makes the point that EPA traditionally has interpreted its Clean Air Act authorities broadly to give it the flexibility to address emerging air pollution problems. The examples that brief provides, however, involve situations where Congress enacted specific provisions to deal with the new problem, *e.g.*, the provisions regulating ozone-depleting substances, *id.* at 21-22, or situations where, although the particular pollutant was not specifically identified by Congress as a concern, the Clean Air Act already contained regulatory provisions that could be used to address the emerging problem effectively, *e.g.*, using existing authority to regulate fuel additives to act quickly to reduce exposure to airborne lead from leaded gasoline, *id.* at 10, or using the NAAQS process to regulate ambient concentrations of a subset of particulate matter believed to present a greater hazard to human health, *id.* at 24. None of these examples involved forcing a whole new type of issue not previously envisioned by Congress (such as depletion of the stratospheric ozone layer . . . or global climate change) into existing Clean Air Act regulatory authorities that did not provide an effective means for addressing that issue. *Cf.* H.R. Rep. 101-490, pt. 1, at 167, 1990 Legis.

(Continued on following page)

Looking at the entire statute consistent with traditional tools of statutory interpretation also meant considering the fact that the only places in the Clean Air Act (and other statutes that deal with related topics and should be construed *in pari materia*) where Congress specifically addressed global climate change was in provisions seeking additional research and data, and encouraging development of new technologies and policies, rather than imposing any restrictions on emissions or similar regulatory provisions. Pet. App. A-74 – A-76. In the years leading up to its consideration of major amendments to the Clean Air Act in 1990, Congress enacted several statutes providing for research into global climate change concerns associated with emissions of CO_2 and other substances. None of these statutes authorized regulation of CO_2 emissions.[25]

Hist. at 3181 (describing the need for the acid deposition provisions of CAA Title IV: "The Clean Air Act was originally designed mainly to reduce high pollution levels that tend to occur near major pollution sources. It did not contemplate that long-distance transport of air pollutants could cause widespread adverse impacts."); *see also id.* at 159, 1990 Legis. Hist. at 3168 (explaining need for amendments in part because "a number of serious new air pollution problems have emerged that were not anticipated by the Clean Air Act Amendments of 1977.").

[25] *See, e.g.*, the 1978 National Climate Program Act, 15 U.S.C. § 2901, *et seq.*, whose purpose was "to establish a national climate program" to help "understand and respond to natural and man-induced climate processes and their implications"; Title VII of the Energy Security Act of 1980, which included provisions (42 U.S.C. §§ 8911-8912) authorizing "a comprehensive study of the projected impact, on the level of CO_2 in the atmosphere, of fossil fuel combustion, coal conversion and related synthetic fuels activities authorized in this Act, and other sources"; the Global Climate Protection Act of 1987, 15 U.S.C. § 2901 note (providing for the formulation of U.S. global climate change policy by the President to be proposed to Congress).

In considering what became the 1990 CAA Amendments, Congress considered but did not adopt proposed amendments that would have mandated control of CO_2 emissions and other substances associated with concerns about global climate change. For example, during floor debate on S.1630, the Environment and Public Works Committee's 1990 CAA Amendments bill, the Senate dropped a provision that would have required automotive CO_2 emission limits. *See* S.1630, 103d Cong. § 206 (1989), 1990 Legis. Hist. at 8036-38 (proposing a new CAA § 216 "Emissions of Carbon Dioxide from Vehicles"), deleted in a substitute amendment to S.1630, *see* 1990 Legis. Hist. at 5178, 7248; *see also* S. Rep. 101-238 at 98-100, 1990 Legis. Hist. 8338 at 8438-40.[26]

The Senate committee's reported bill also contained other provisions to regulate CO_2 to address concerns about global climate change. The Senate committee's bill, S.1630, would have authorized EPA to list and regulate "manufactured substances which are known or may reasonably be anticipated to cause or contribute significantly to atmospheric or climatic modification, including stratospheric ozone depletion." *Id.* at 685, 1990 Legis. Hist. 8338 at 9025 (proposing to add a new section 504(b) to the Act). While providing for regulations directed at depletion of ozone in

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[26] *See* Pet. App. A-69 – A-70. Petitioners attempt to dismiss these facts by citing case law noting that a failed legislative proposal could, among other things, have resulted from the fact that existing legislation was believed to already address the issue. Pet. Br. at 21. In this case, however, there are explicit indications to the contrary. For example, Senator Chafee, the proposal's main sponsor, reported "a compromise" in which he "gave up" the CO_2 emission limits in section 216 of S.1630. 1990 Legis. Hist. 5189-90. *See also* Brief of Respondent Utility Air Regulatory Group.

the stratosphere, that version of the bill also directed EPA to designate "the global warming potential" of each listed substance. *Id.* at 686, 1990 Legis. Hist. 8338 at 9026 (proposing to add a new section 504(c) to the Act).

The Senate also considered amending the Clean Air Act to require EPA to list and designate the global warming potential of products, and to consider regulating the use of products based on their global warming potential, in addition to their potential impact on stratospheric ozone depletion. *Id.* pp. 685-686, 1990 Legis. Hist. at 9025-26. In the end, though, the Clean Air Act Amendments of 1990 only authorized listing and regulation of substances with respect to "harmful effects on the stratospheric ozone level." CAA § 602(a), (b), 42 U.S.C. § 7671a(a), (b). Although section 602(e) of the Act as amended directs EPA to publish, after notice and opportunity for public comment, the "global warming potential" of each listed substance, that section also contains a sentence (which was absent from the Senate committee's bill) stating that "[t]he preceding sentence [requiring publication of listed substances' global warming potential] shall not be construed to be the basis of any additional regulation under this Act." CAA § 602(e), 42 U.S.C. § 7671a(e).

The 1990 Clean Air Act Amendments also added language to the Act directing EPA to conduct a "nonregulatory" program for addressing CO_2 and certain other substances. Section 103(g) of the Act directs EPA to "conduct a basic engineering research and technology program to develop, evaluate, and demonstrate nonregulatory strategies and technologies for air pollution prevention." CAA § 103(g), 42 U.S.C. § 7403(g). This nonregulatory program is to include improvements in "nonregulatory strategies and technologies for preventing or reducing" emissions

"from stationary sources, including fossil fuel power plants." CAA § 103(g)(1), 42 U.S.C. § 7403(g)(1). Section 103(g) provides that "[n]othing in this subsection shall be construed to authorize the imposition on any person of air pollution control requirements." 42 U.S.C. § 7403(g).

Thus, Congress in 1990 considered amending the Act to include provisions authorizing regulatory control of CO_2 emissions from certain sources but chose not to enact any such provisions. Rather, Congress enacted language in sections 602(e) and 103(g) of the Act reflecting a legislative decision not to authorize CO_2 emission controls and indicating a belief that further information was needed before legislating a new control regime.

Likewise, after the 1990 amendments to the CAA, Congress enacted several *non-regulatory* laws related to global climate change. The day after enactment of the Clean Air Act Amendments of 1990, Congress passed the Global Change Research Act of 1990, 15 U.S.C. § 2921, *et seq.*, which established a research program and included a finding that: "Development of effective policies to abate, mitigate, and cope with global change will rely on greatly improved scientific understanding of global environmental processes and on our ability to distinguish human-induced from natural global change." *Id.* § 2931(a)(4).[27] Title XVI of the Energy Policy Act of 1992, Pub. L. No. 102-486,

[27] A few days later, Congress enacted the Global Climate Change Prevention Act of 1990, 7 U.S.C. § 6701, *et seq.*, which provided for research on the impact of global climate change on agriculture and required a report to Congress providing "recommendations for actions which may be taken to mitigate the negative effects of global climate change. . . ." *Id.* at § 6702(c).

directed the Executive Branch to develop a plan "to achieve to the maximum extent practicable and at least-cost to the Nation ... the stabilization and eventual reduction in the generation of greenhouse gases." 42 U.S.C. §§ 13382(a), (g). It did not contain any provisions for imposing limitations on emissions, however.[28] This statute was intended to provide Congress with an assessment of "the important technical and policy issues that will enable us to make wiser decisions on more dramatic and possibly higher cost action which should be undertaken only in the context of concerted international action." H.R. Rep. 102-474, pt. 1, at 152 (1992), 1992 U.S.C.C.A.N. 1953, 1975.

Most recently, in the Energy Policy Act of 2005, Congress established a number of specific federal policies and programs to address global climate change, but again none of its provisions impose or authorize mandatory restrictions on emissions of greenhouse gases. Pub. L. No. 109-58, tit. XVI, §§ 1610(b)(1), (c)(1), 1611, 119 Stat. 595, 1109. In fact, in debating that act the Senate considered and rejected a proposed amendment (Amendment No. 826, introduced by Senators McCain and Liebermann) which would have imposed mandatory limits on emissions of greenhouse gases. *See* 151 Cong. Rec. S6878, S6892-96 (daily ed. June 21, 2005). That amendment was rejected on the floor by a 38-60 margin. Vote 148, *id.* at S7029 (daily ed. June 22, 2005).

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[28] *Cf.* section 1605(a) of the Energy Policy Act of 1992, 42 U.S.C. § 13385(a), which provides for a national aggregate inventory of each greenhouse gas, while stating that the subsection "does not provide any new data collection authority," and § 1605(b), 42 U.S.C. § 13385(b), which provides for voluntary reporting of CO_2 and other greenhouse gas emissions and reductions.

These congressional actions indicate that, far from relying on an extension of existing Clean Air Act regulatory programs for air pollutants to address concerns about global climate change, Congress instead has addressed global climate change in specific terms (although not as aggressively as Petitioners would like). These considerations support and confirm EPA's assessment that Congress did not intend, through a few words in the definition of "air pollutant" and "welfare," to authorize or compel EPA to adopt regulations addressing concerns about the global climate and the potentially wide-ranging measures that would be needed to mitigate greenhouse gas emissions. *See Brown & Williamson*, 529 U.S. at 133 ("the meaning of one statute may be affected by other Acts, particularly where Congress has spoken subsequently and more specifically to the topic at hand"); *Erlenbaugh v. United States*, 409 U.S. 239, 244 (1972) (statutory provisions dealing with the same subject-matter normally are construed together to discern their meaning).

There is no indication that Congress expected EPA to address global climate change using an ill-matched set of regulatory programs intended to deal with local and regional impacts of air pollutant emissions on ambient air quality. EPA reasonably interpreted the definition of "air pollutant" in light of the history of congressional action on climate change. Pet. App. A-74 – A-76. Certainly nothing about the legislative history of the Clean Air Act and related enactments renders EPA's position "over the edge of reasonable interpretation." *Whitman v. American Trucking Ass'ns*, 531 U.S. 457, 485 (2001).

CONCLUSION

For the reasons set forth above, the Court should uphold EPA's interpretation of its duties and authorities under the Clean Air Act and EPA's expert judgment that regulation of greenhouse gas emissions from motor vehicles for purposes of mitigating global climate change is inappropriate at this time. While agreeing that climate change is an important issue that warrants serious government consideration, CO_2 Litigation Group urges the Court to decline Petitioners' invitation to legislate a global climate change mitigation program that Congress never intended and indeed is still debating.

Respectfully submitted,

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Appendix A Complaint in D. Conn. seeking order for EPA to list carbon dioxide as a "criteria" pollutant under section 108 of the Clean Air Act

UNITED STATES DISTRICT COURT
DISTRICT OF CONNECTICUT

COMMONWEALTH OF MASSACHUSETTS, STATE OF CONNECTICUT, and STATE OF MAINE, Plaintiffs, v. CHRISTINE TODD WHITMAN, in her capacity as ADMINISTRATOR of the UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, Defendant.	CIVIL ACTION NO. 3:03CV984 (PCD)

COMPLAINT

The Commonwealth of Massachusetts and the States of Connecticut and Maine (Plaintiff States), acting by and through their respective Attorneys General, bring this civil action and allege as follows:

DESCRIPTION OF THE CASE

1. The Clean Air Act requires the Administrator of the United States Environmental Protection Agency to regulate common air pollutants that, due to their presence in ambient air from emissions from numerous and varied sources, cause or contribute to air pollution that endangers

public health or welfare. Section 108 of the Act initiates the regulation of each such pollutant that, in the judgment of the Administrator, satisfies those criteria, by requiring her to include it in a "list."

2. Carbon dioxide, a "greenhouse gas" generated by the combustion of fossil fuels, is the dominant cause of global warming and is an "air pollutant" under the Act. In May 2002, the United States submitted to the United Nations a formal, comprehensive report that set forth, among other things, the official position of the United States on the likely impacts of global warming. The report concluded that global warming will likely produce wide-ranging and potentially devastating impacts to public health and welfare.

3. The EPA played the lead role among numerous federal agencies or departments, and the Executive Office of the President, in coordinating the preparation, review and approval of that report. Further, the EPA itself fully reviewed and officially adopted the report's findings regarding the likely impacts of global warming.

4. Notwithstanding having made a judgment that carbon dioxide causes or contributes to global warming that endangers public health and welfare, the Administrator has failed to perform her mandatory duty under Section 108 of the Act, namely to "list" carbon dioxide and, thereby, initiate its regulation under the Act. Rather, the Administrator supports implementation of "voluntary" greenhouse gas reductions and advocates using "other creative ways" to address the dangers posed by global warming.

5. The Administrator's failure to "list" carbon dioxide constitutes a failure to perform a nondiscretionary duty

and is a violation of the Act for which Plaintiff States are entitled to relief. In this action, the Plaintiff States seek an order compelling the Administrator to commence the regulatory process for carbon dioxide by adding it to the list of air pollutants established under Section 108.

JURISDICTION AND VENUE

6. This Court has jurisdiction of the subject matter of this action pursuant to 42 U.S.C. §§ 7604(a)(2), 28 U.S.C. §§ 1331, 1346(a)(2), and 1361.

7. Venue is proper in this District pursuant to 28 U.S.C. §§ 1391(b) and (e), and 1402(a)(1).

8. Each of the Plaintiff States brings this action both in its own capacity as a sovereign State and as *parens patriae* on behalf of its citizens. In addition to seeking to preserve and protect their own economic and property interests, the Plaintiff States also seek to preserve and protect quasi-sovereign interests on behalf of their citizens. Specifically, the Plaintiff States seek to secure all benefits to human health and welfare due to their citizens under the federal Clean Air Act and to protect general economic interests on behalf of their citizens.

STATUTORY BACKGROUND

9. The Clean Air Act establishes a regulatory scheme designed to protect and enhance the quality of the nation's air so as to promote the public health and welfare and the productive capacity of its population. 42 U.S.C. § 7401(b)(1).

10. The Clean Air Act regulates air pollution through a complex array of mechanisms that are aimed at regulating types of pollutants or pollution (such as "criteria pollutants," hazardous pollutants, acid rain, or stratospheric ozone) or categories of sources (such as mobile or stationary). One of the most important of these mechanisms is the use of National Ambient Air Quality Standards (NAAQS) to regulate common and widely-distributed pollutants on the basis of information on their health and/or environmental effects. Such pollutants are commonly referred to as "criteria pollutants."

11. Regulation of a criteria pollutant starts with its being "listed" pursuant to Section 108(a)(1) of the Act, 42 U.S.C. § 7408(a)(1). Section 108(a)(1) mandates that "the Administrator shall ... publish, and shall from time to time thereafter revise, a list which includes each air pollutant – (A) emissions of which, in [the Administrator's] judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare; (B) the presence of which in the ambient air results from numerous or diverse mobile or stationary sources; and (C) for which air quality criteria had not been issued before December 31, 1970, but for which [the Administrator] plans to issue air quality criteria under this section.

12. After a criteria pollutant is "listed," EPA must set air quality criteria, 42 U.S.C. § 7408(a)(2), and ambient air quality standards, 42 U.S.C. § 7409(a)(2), which are the levels of each listed pollutant in the ambient air that EPA deems to be protective of public health (primary NAAQS) and welfare (secondary NAAQS), 42 U.S.C. § 7409(b). Ultimately, implementation of the ambient air quality standards occurs through federally approved state

plans or federal implementation plans. 42 U.S.C. §§ 7410(a) and (c).

13. Section 302(g) of the Act, 42 U.S.C. § 7602(g), broadly defines "air pollutant" to include "any air pollution agent or combination of such agents, including any physical, [or] chemical . . . substance or matter which is emitted into or otherwise enters the ambient air."

14. Section 302(h) of the Act, 42 U.S.C. § 7602(h), defines effects on "welfare" to include, among other things, "effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants."

15. Section 302(z) of the Act, 42 U.S.C. § 7602(z) defines "stationary source" to be "any source of an air pollutant except those emissions resulting directly from an internal combustion engine for transportation purposes or from a nonroad engine or nonroad vehicle as defined in section 7550 of this title."

16. Section 304(a)(2) of the Clean Air Act, 42 U.S.C. § 7604(a)(2), provides that any person may commence a civil action on his own behalf against the Administrator based on an alleged failure of the Administrator to perform any nondiscretionary act or duty under the Act.

FACTUAL BACKGROUND

* * *

CAUSE OF ACTION

Failure to Perform a Nondiscretionary Duty Pursuant to CAA § 304(a)(2)

114. The Plaintiff States reallege and incorporate by reference the allegations of paragraphs 1-113 as if they were restated in full.

115. Carbon dioxide is a "physical, [or] chemical . . . substance or matter" within the meaning of Section 302(g) of the Act, 42 U.S.C. § 7602(g).

116. The human activities set forth in paragraph 24, above, produce carbon dioxide as a result of the burning of fossil fuels. Such carbon dioxide is "emitted into or otherwise enters the ambient air" within the meaning of Section 302(g) of the Act, 42 U.S.C. § 7602(g).

117. Carbon dioxide is an "air pollutant" within the meaning of Section 302(g) of the Act, 42 U.S.C. § 7602(g).

118. The Administrator has made a "judgment" that emissions of carbon dioxide cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare within the meaning of Section 108(a)(1)(A) of the Act, 42 U.S.C. § 7408(a)(1)(A).

119. Power plants and industrial facilities that generate electricity from the burning of fossil fuels are "stationary sources" of carbon dioxide within the meaning of Sections 108(a)(1)(B) and 302(z) of the Act, 42 U.S.C. §§ 7408(a)(1)(B), 7602(z).

120. Internal combustion engine vehicles, such as passenger cars, trucks, motorcycles and buses are "mobile sources" of carbon dioxide emissions within the meaning of Section 108(a)(1)(B).

121. Carbon dioxide is present in the ambient air as a result of "numerous or diverse mobile or stationary sources," within the meaning of Section 108(a)(1)(B) of the Clean Air Act, 42 U.S.C. § 7408(a)(1)(B).

122. By failing to revise the list of air pollutants under Section 108(a)(1) of the Act, 42 U.S.C. § 7408(a)(1), to include carbon dioxide, the Administrator has failed to perform a nondiscretionary duty within the meaning of Section 304(a)(2) of the Act, 42 U.S.C. § 7604(a)(2).

123. By so violating Section 304(a)(2) of the Clean Air Act, 42 U.S.C. § 7604(a)(2), EPA is unlawfully increasing the likelihood of harming the economic interests of the Plaintiff States, is unlawfully increasing the likelihood and severity of damage to property owned by each of the Plaintiff States, is unlawfully denying residents of each of the Plaintiff States the benefits due them under the federal Clean Air Act, and is unlawfully subjecting residents of each of the Plaintiff States to increased risks of harm to human health, welfare, and general economy that are associated with the continued unregulated emissions of carbon dioxide.

PRAYER FOR RELIEF

WHEREFORE, the Plaintiff States request that this Honorable Court:

1. Order the Administrator to revise the list of air pollutants pursuant to Section 108(a)(1) of the

Act, 42 U.S.C. § 7408(a)(1), to include carbon dioxide.

2. Award the Plaintiff States their costs of this action and attorneys' fees; and

3. Grant such other relief as the Court deems just and proper.

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Dated: June 4, 2003

Appendix B Plaintiffs' notice of dismissal of D. Conn. case seeking order for EPA to list carbon dioxide as a "criteria" pollutant under section 108 of the Clean Air Act, in light of pending *Commonwealth of Massachusetts v. EPA* D.C. Circuit case

UNITED STATES DISTRICT COURT
DISTRICT OF CONNECTICUT

COMMONWEALTH OF MASSACHUSETTS, STATE OF CONNECTICUT, and STATE OF MAINE, Plaintiffs, v. MARIANNE L. HORINKO, in her capacity as ACTING ADMINISTRATOR of the UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, Defendant.	CIVIL ACTION NO. 3:03CV984 (PCD)

PLAINTIFFS' NOTICE OF DISMISSAL WITHOUT PREJUDICE

Pursuant to Rule 41(a) of the Federal Rules of Civil Procedure, plaintiffs Commonwealth of Massachusetts and the States of Connecticut and Maine (collectively, the Plaintiffs), acting by and through their respective Attorneys General, notify this Court that they are dismissing their action without prejudice. As background to this notice, the Plaintiffs state as follows:

1. In 1999, various environmental groups filed an administrative petition requesting EPA to regulate the emission of carbon dioxide and other greenhouse gases from cars and other "mobile sources" pursuant to Section 202 of the Clean Air Act. EPA's inaction on this petition ("the 202 Petition") led two of the petitioners and the Sierra Club to file a law suit in August of 2002 alleging that EPA had unreasonably delayed a ruling on the petition. On August 28, 2003 – four years after the 202 Petition was submitted and one year after the "unreasonable delay" suit was filed – EPA denied the 202 Petition. In that denial, EPA formally announced for the first time its position that it has no jurisdiction under the Clean Air Act to regulate greenhouse gases, in the process "withdrawing" formal statements issued to the contrary in 1998, 1999, and 2000.

2. On August 28, 2003, the very same day that it denied the 202 Petition, EPA served a Motion to Dismiss this lawsuit, in which EPA highlights its "recent" action on the 202 Petition. As one of the grounds for its motion, EPA argued that since it had now ruled that it had no authority to regulate greenhouse gases and since a challenge to its denial of the 202 Petition must be filed in the Court of Appeals for the D.C. Circuit, this Court lacks jurisdiction to grant the relief the Plaintiffs are seeking in this action. The defendant has not filed an Answer or a Motion for Summary Judgment.

3. EPA's newly-minted position that it lacks jurisdiction to regulate greenhouse gases was

formulated in the context of the ongoing litigation and its issuance was plainly driven by the agency's need to respond to the Plaintiffs' Complaint. The new position is therefore not entitled to any deference. *See e.g., Bowen v. Georgetown University Hosp.*, 488 U.S. 204, 212-13, 109 S.Ct. 468, 473-74 (1988). Without conceding that this Court lacks jurisdiction to review the scope of EPA's authority, however, the Plaintiffs agree that that issue is now better presented to the D.C. Circuit. In fact, the Plaintiffs themselves intend to file such a challenge.

4. Given these circumstances, the Plaintiffs hereby give notice pursuant to Rule 41(a) of the Federal Rules of Civil Procedure that they are dismissing their present action without prejudice. The Plaintiffs intend to re-file this case upon a decision by the D.C. Circuit rejecting EPA's position that it lacks authority to regulate greenhouse gases (or a decision declining to reach the issue).

For these reasons, Plaintiffs hereby provide notice in accordance with Rule 41(a) of the Federal Rules of Civil Procedure that they have dismissed their action without prejudice.

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Dated: September 3, 2003

Appendix C State Petitioners' Statement of Issues in D.C. Circuit case challenging EPA failure to include greenhouse gas emission limitations in New Source Performance Standards for boilers

UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

COKE OVEN ENVIRONMENTAL TASK FORCE,	
Petitioner,	
v.	**Case No. 06-1131 (and consolidated cases)**
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, ET AL.,	
Respondents.	

NON-BINDING STATEMENT OF ISSUES OF PETITIONERS STATE OF NEW YORK, ET AL.

Petitioners State of New York, et al. in Case No. 06-1148, provide the following nonbinding statement of issues they intend to raise in this case:

1. Does the United States Environmental Protection Agency (EPA) have the authority to regulate emissions of carbon dioxide from stationary sources under section 111 of the Clean Air Act, 42 U.S.C. § 7411, based on the effect of carbon dioxide on public health or welfare, which encompasses, among other things, impacts on climate and weather?

2. Did EPA act unlawfully or arbitrarily in setting the new source performance standards for emissions of sulfur dioxide and nitrogen oxides from electric utility steam generating units at levels that can be achieved without application of the best system of emissions reduction that has been adequately demonstrated?

Dated: May 26, 2006

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Appendix D Joint motion to hold portion of New Source Performance Standards petition for review in abeyance pending outcome of *Commonwealth of Massachusetts v. EPA*, Supreme Court No. 05-1120

BRIEFING AND ORAL ARGUMENT NOT YET SCHEDULED

IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA

COKE OVEN ENVIRONMENTAL TASK FORCE, et al., *Petitioners*, v. UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, et al., *Respondents*.	Docket No. 06-1131 (and consolidated cases)

JOINT MOTION TO SEVER PORTIONS OF CASE NOS. 06-1148 AND 06-1149 AND HOLD IN ABEYANCE

Petitioners Environmental Defense, Sierra Club, and Natural Resources Defense Council (collectively "Environmental Group Petitioners"); the States of New York, California, Connecticut, Maine, New Mexico, Oregon, Rhode Island, Vermont, and Wisconsin, the Commonwealth of Massachusetts, the District of Columbia and the City of New York (collectively "State Petitioners") and Respondents United States Environmental Protection

Agency, and Stephen L. Johnson, in his capacity as Administrator, United States Environmental Protection Agency (collectively "EPA"), jointly move this Court to sever the first issue raised in Case Nos. 06-1148 and 06-1149, relating to carbon dioxide and other greenhouse gas emissions, assign that issue its own case number, and hold this severed case in abeyance pending action by the Supreme Court in *Commonwealth of Massachusetts v. EPA,* 415 F.3d 50, 58 (D.C. Cir. 2005), *cert. granted,* 2006 WL 1725113 (Jun. 26, 2006). *See infra* paragraph 5.

This joint motion reflects a partial resolution of the differences between the moving parties with respect to EPA's pending Motion to Hold the Consolidated Cases in Abeyance and Remand the Record filed on June 14, 2006. Specifically, the moving parties have reached agreement on a joint proposal to defer briefing of issues relating to carbon dioxide and other greenhouse gas emissions until after the Supreme Court decides the *Massachusetts* case as described above and in paragraph 5, *infra.*

The moving parties have not reached agreement, however, on whether the remaining issues raised by these petitions, concerning the emission standards for sulfur dioxide ("SO2") and nitrogen oxides ("NOx"), should be stayed. The State and Environmental Group Petitioners believe that issues regarding the adequacy of the S02 and NOx standards should be briefed now, while EPA believes those issues should be deferred until EPA resolves the petitions for reconsideration relating to other technical aspects of the final rule. Accordingly, that question remains before the Court in the context of EPA's pending motion of June 14, 2006.

In support of the joint motion, the parties state:

1. Five separate petitions, now consolidated, were filed in April 2006 by the Coke Oven Environmental Task Force, Council of Industrial Boiler Owners, Utility Air Regulatory Group, Environmental Group Petitioners, and State Petitioners. Petitioners seek review of EPA's final rule entitled, "Standards of Performance for Electric Steam Generating Units, Industrial-Commercial-Institutional Steam Generating Units, and Small Industrial-Commercial-Institutional Steam Generating Units," 71 Fed. Reg. 9,866 (Feb. 27, 2006). This regulation establishes new emissions standards for nitrogen oxides, sulfur dioxide, and particulate matter for certain types of steam generating units pursuant to EPA's authority under Clean Air Act section 111(b)(1)(B), 42 U.S.C. § 7411(b)(1)(B). In taking this final action, EPA also declined to establish standards for carbon dioxide and other greenhouse gas emissions from these sources.

2. On June 14, 2006, EPA filed a Motion to Hold the Consolidated Cases in Abeyance and Remand the Record. Industry Petitioners consented to EPA's motion. On June 26, 2006, State and Environmental Group Petitioners filed a response opposing in part the relief EPA requested. Specifically, these petitioners opposed EPA's request for a remand of the administrative record and a stay of their petitions challenging EPA's decision not to regulate carbon dioxide and other greenhouse gas emissions as well as the emission standards established for sulfur dioxide and nitrogen oxides in the final rule. Opp. at 1-2. State and Environmental Group Petitioners did not oppose a stay of Industry Petitioners' cases for seven months to allow EPA to complete the administrative reconsideration process or a stay of Environmental Group Petitioners' challenge to

particulate matter emission standards. Opp. at 12. EPA's reply in support of its motion is due on July 10, 2006.[1]

3. On June 26, 2006, the Supreme Court granted certiorari in *Commonwealth of Massachusetts v. EPA*, 415 F.3d 50, 58 (D.C. Cir. 2005), *cert. granted*, 2006 WL 1725113 (Jun. 26, 2006). All of the State and Environmental Group Petitioners (with the exception of the State of Wisconsin) are parties in the *Massachusetts* case.

4. The question presented in the *Massachusetts* certiorari petition regarding whether EPA has the legal authority to regulate to greenhouse gases under the Clean Air Act may be dispositive of some or all of the carbon dioxide and other greenhouse gas issue raised by State and Environmental Group Petitioners in these consolidated cases. *See* Opp. Exs. D, E (Non-Binding Statement of Issues filed in Case Nos. 06-1148 and 06-1149).

5. Because of this change in circumstances, the parties now jointly move that the issue related to regulation of carbon dioxide and other greenhouse gas emissions raised in Case Nos. 06-1148 and 06-1149 be severed from the consolidated cases, given a new case number, and held in abeyance until the Supreme Court issues a decision in the *Massachusetts* case.[2] Within 30 days of a decision in

---

[1] On June 28, 2006, EPA filed an unopposed motion for a one week extension of its deadline to file its reply brief due to severe flooding in Washington D.C. that had closed the offices of EPA. The Court has not yet acted on EPA's motion. Pursuant to Circuit Rule 27(h)(4), the time for filing of its reply is automatically extended until the Court acts.

[2] This joint motion does not alter EPA's motion to hold the Industry Petitioners' cases (Case Nos. 06-1131, 06-1154, 06-1155) in abeyance for seven months to allow EPA to complete the administrative reconsideration process, which has been consented to by all Petitioners.

the *Massachusetts* case, the parties will advise the court on how the severed case should proceed in light of the Supreme Court's ruling.

6. If the Court grants the relief requested in paragraph 5, *supra,* EPA will withdraw its request to remand the record made as part of its June 14, 2006 motion. However, EPA reserves the right to request a remand of the administrative record after the Supreme Court rules on the *Massachusetts* case and State and Environmental Petitioners reserve the right to object to such a request.

7. If the Court declines to grant the parties' joint motion herein, EPA renews it request to remand the record for the reasons stated in its June 14, 2006 motion and its reply brief filed separately today. State and Environmental Petitioners object to EPA's request for the reasons stated in their June 26, 2006 opposition.

8. The parties continue to disagree on how to proceed with the remaining issues regarding the NOx and SO2 standards raised in Case Nos. 06-1148 and 06-1149. EPA intends to further address this disagreement in the context of its reply papers on the June 14, 2006 motion. In view of the change of circumstances occasioned by the Supreme Court action, EPA has no objection to allowing the State and Environmental Petitioners to file a surreply not to exceed 5 pages by July 17, 2006.

WHEREFORE, the parties respectfully request that the Court: (1) sever issue no. 1 identified in the Non-Binding Statement of Issues filed in Case Nos. 06-1148 and 06-1149 from these consolidated cases and assign the severed portion a separate docket number; (2) order this severed portion to be held in abeyance until the Supreme Court issues a decision in *Commonwealth of Massachusetts*

v. EPA, 415 F.3d 50, 58 (D.C. Cir. 2005), *cert. granted*, 2006 WL 1725113 (Jun. 26, 2006); (3) order the parties to file a report in the severed case advising the Court of their views on how the litigation should proceed within 30 days after the abeyance period expires, and (4) on the condition that the above relief is granted by the Court, deem EPA's Motion to Hold the Consolidated Cases in Abeyance and Remand the Record withdrawn, without prejudice, to the extent it seeks voluntary remand of the administrative record.

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Supreme Court, U.S.
FILED
OCT 24 2006
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No. 05-1120

In the Supreme Court of the United States

COMMONWEALTH OF MASSACHUSETTS, ET AL.,
PETITIONERS

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.

ON WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

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QUESTIONS PRESENTED

1. Whether petitioners have carried their burden of establishing standing to sue in this case.

2. Whether the Environmental Protection Agency (EPA) reasonably determined that it lacks authority under the Clean Air Act (CAA) to regulate greenhouse gas emissions for the purpose of addressing global climate change.

3. Whether, assuming that EPA is authorized by the CAA to regulate greenhouse gas emissions for the purpose of addressing global climate change, the agency reasonably exercised its discretion in declining to initiate a rulemaking to consider regulation of carbon dioxide and other greenhouse gas emissions from new motor vehicles.

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57 Fed. Reg. 33,754 (1992) ... 29

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News Release (July 11, 2006) <http://www.whitehouse.gov/ news/releases/2006/07/20060711-7.html> ... 9

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U.N. Framework Convention on Climate Change, *Kyoto Protocol* (visited Oct. 24, 2006) <http://unfccc.int/essential_background/kyoto_protocol/items/2830.htm> ... 30, 31

In the Supreme Court of the United States

No. 05-1120

COMMONWEALTH OF MASSACHUSETTS, ET AL.,
PETITIONERS

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.

ON WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

BRIEF FOR THE FEDERAL RESPONDENT

STATEMENT

This case involves a challenge to an administrative decision of the Environmental Protection Agency (EPA). EPA denied a rulemaking petition seeking regulation, pursuant to Section 202(a)(1) of the Clean Air Act (CAA or Act), 42 U.S.C. 7521(a)(1), of emissions of carbon dioxide and three other so-called "greenhouse gases" from new motor vehicles. EPA concluded that it lacked authority to undertake such regulation under the CAA. See Pet. App. A59-A80. EPA further determined that it would decline as a matter of discretion to exercise any such authority that it might possess. See *id.* at A80-A87. The court of appeals denied petitions for review that challenged EPA's decision. See *id.* at A1-A58.

1. Title I of the CAA focuses on stationary sources of air pollution, such as power plants. Title II of the Act establishes

a framework for federal control of pollution from motor vehicles and other mobile sources. See 42 U.S.C. 7521-7590 (2000 & Supp. III 2003). Section 202(a)(1) of the CAA, 42 U.S.C. 7521(a)(1), directs EPA to "prescribe * * * standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in [EPA's] judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare."

Section 302 of the Act, 42 U.S.C. 7602, sets forth general definitions applicable to the CAA as a whole. The Act defines the term "air pollutant" to mean "any air pollution agent or combination of such agents, including any physical, chemical, biological, [or] radioactive * * * substance or matter which is emitted into or otherwise enters the ambient air[,]" including any precursors to the formation of such air pollutant. 42 U.S.C. 7602(g). References in the CAA to "effects on welfare" include "effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, and damage to * * * property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being." 42 U.S.C. 7602(h).

2. On October 20, 1999, the International Center for Technology Assessment (ICTA) and several other parties filed a rulemaking petition asking EPA to regulate emissions of carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons from new motor vehicles. J.A. 5-45. The petition alleged that emissions of those "greenhouse gases" from motor vehicles contributed to global climate change, satisfied the criteria for regulation under Section 202(a)(1) of the Act, 42 U.S.C. 7521(a)(1), and could feasibly be regulated by EPA. See J.A. 16-41. After soliciting and considering approximately 50,000 public comments, see Pet. App. A63, EPA denied the rulemaking petition, see *id.* at A59-A93.

a. EPA concluded that it lacked statutory authority to regulate the greenhouse gases at issue to address global climate change. Pet. App. A67, A68-A79.[1] EPA explained that this Court's decision in *FDA* v. *Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000), "cautions agencies against using broadly worded statutory authority to regulate in areas raising unusually significant economic and political issues when Congress has specifically addressed those areas in other statutes." Pet. App. A68. EPA noted that the only provisions of the Act that specifically mention carbon dioxide or "global warming" are expressly nonregulatory in nature. *Id.* at A70-A71. It further explained that Congress had addressed another global atmospheric issue—stratospheric ozone depletion—by adding to the CAA a distinct set of provisions specifically tailored to that issue and its international dimensions. *Id.* at A71-A72. EPA noted in that regard that global climate change presents problems fundamentally different from those that the National Ambient Air Quality Standards—a central CAA mechanism for controlling pervasive air pollutants—were intended to or are capable of solving. *Id.* at A72-A73. EPA also observed that Congress had specifically addressed the subject of global climate change in legislation enacted outside the CAA framework, *id.* at A74, and had "declined to adopt other legislative proposals * * * to require [greenhouse gas] emissions reductions from stationary and mobile sources," *id.* at A74-A75.

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[1] In denying ICTA's petition for rulemaking, EPA adopted the legal opinion of the agency's then-General Counsel, Robert E. Fabricant, "as the position of the Agency for purposes of deciding this petition and for all other relevant purposes under the CAA." Pet. App. A69. In that opinion, General Counsel Fabricant acknowledged that his legal conclusion reflected a departure from the position taken by two prior EPA general counsels in 1998 and 1999. See J.A. 120-123. Those general counsels had concluded that EPA possessed authority under the CAA to regulate greenhouse gas emissions, while emphasizing that the agency had no current intention of exercising that authority. See J.A. 54, 61-62, 71, 77, 79, 91, 98, 106, 108, 122-123.

EPA concluded that "the term 'air pollution' as used in the regulatory provisions [of the Act] cannot be interpreted to encompass global climate change," and that "[carbon dioxide] and other [greenhouse gases] are not 'agents' of air pollution and do not satisfy the CAA section 302(g) definition of 'air pollutant' for purposes of those provisions." Pet. App. A78. EPA also determined, however, that, "[e]ven if [greenhouse gases] were air pollutants generally subject to regulation under the CAA, Congress has not authorized the Agency to regulate [carbon dioxide] emissions from motor vehicles to the extent such standards would effectively regulate the fuel economy of passenger cars and light duty trucks." *Id.* at A79. EPA explained that at present, "the only practical way to reduce tailpipe emissions of [carbon dioxide] is to improve fuel economy." *Ibid.* The agency further concluded that the Energy Policy and Conservation Act (EPCA), 49 U.S.C. 32901-32919, which is administered by the Department of Transportation, was intended to serve as "the only statutory vehicle for regulating the fuel economy of cars and light duty trucks," and that EPCA therefore precluded any EPA regulation of carbon dioxide emissions that would effectively regulate the fuel economy of vehicles subject to EPCA. Pet. App. A79; see *id.* at A87 (explaining impracticality of other suggested methods of controlling carbon dioxide emissions).

b. EPA alternatively determined that it would deny the petition for rulemaking even if the CAA authorized it to regulate greenhouse gas emissions in order to address global climate change. EPA noted that "the CAA provision authorizing regulation of motor vehicle emissions does not impose a mandatory duty on the Administrator to exercise her judgment," but instead confers "discretionary authority." Pet. App. A80. EPA also observed that no EPA Administrator had yet made a finding that the standard for regulation under Section 202(a)(1) of the CAA (*i.e.*, that air-pollutant emissions "cause, or contribute to, air pollution which may reasonably be anticipated to endan-

ger public health or welfare," 42 U.S.C. 7521(a)(1)) had been satisfied with respect to carbon dioxide or other greenhouse gas emissions. Pet. App. A81.

Based in large part on a report issued in 2001 by the National Academies' National Research Council (NRC), EPA identified numerous areas of scientific uncertainty as to the mechanisms of global climate change, its potential effects on human health and the environment, and effective responses. Pet. App. A82-A84. The agency also expressed the concern that regulation of greenhouse gas emissions from motor vehicles would "result in an inefficient, piecemeal approach to addressing the climate change issue" because "[t]he U.S. motor vehicle fleet is one of many sources of [greenhouse gas] emissions." *Id.* at A85. EPA further observed that "[u]nilateral EPA regulation of motor vehicle [greenhouse gas] emissions could also weaken U.S. efforts to persuade key developing countries to reduce the [greenhouse gas] intensity of their economies." *Id.* at A86. The agency concluded that, "[u]ntil more is understood about the causes, extent and significance of climate change and the potential options for addressing it, EPA believes it is inappropriate to regulate [greenhouse gas] emissions from motor vehicles." *Ibid.*

3. Pursuant to 42 U.S.C. 7607(b)(1), numerous petitions for review of EPA's denial of the rulemaking petition were filed in the District of Columbia Circuit. On July 15, 2005, the court of appeals denied those petitions. Pet. App. A1-A58.

a. Judge Randolph, who announced the judgment of the court, declined to adopt EPA's position that petitioners lack standing to bring this case. Judge Randolph viewed the declarations submitted by petitioners to establish standing as sufficient to survive a motion for summary judgment, Pet. App. A8, but he observed that the record also contained evidence "contradict[ing] petitioners' claim that greenhouse gas emissions from new motor vehicles have caused or will cause a significant

change in the global climate," *id.* at A9. In Judge Randolph's view, it was not a sensible course of action either "to refer the standing issues to a special master for a factual determination" or "to remand to EPA for a factual determination of causation and redressability." *Ibid.* Judge Randolph concluded that, in light of the "factual overlap of the standing issues with EPA's justifications for not regulating greenhouse gases," it was appropriate "to proceed to the merits with respect to EPA's alternative decision not to regulate." *Ibid.*

On the merits, Judge Randolph assumed, arguendo, that EPA possessed statutory authority to regulate greenhouse gas emissions from new motor vehicles, but held that EPA had properly declined to exercise that authority. Pet. App. A10-A15. Judge Randolph noted the substantial scientific uncertainties in the current understanding of climate change. *Id.* at A12. He also emphasized that, because Section 202(a)(1) "directs the Administrator to regulate emissions that 'in his judgment' 'may reasonably be anticipated to endanger public health or welfare,'" it "gives the Administrator considerable discretion" to take into account "policy judgments" as well as "scientific evidence" in determining whether regulation of particular emissions is advisable. *Id.* at A13. Noting the array of policy concerns identified by EPA in its denial of the petition for rulemaking, see *id.* at A13-A14, Judge Randolph concluded that "the EPA Administrator properly exercised his discretion under § 202(a)(1) [42 U.S.C. 7521(a)(1)] in denying the petition for rulemaking," *id.* at A15.

b. Judge Sentelle concluded that the petitions for review should be dismissed because petitioners lacked standing. Pet. App. A16-A20. In his view, the impacts from global warming alleged by petitioners were too generalized to establish standing. *Id.* at A17-A18. To ensure that a majority of the panel could agree on a disposition of the case, however, Judge Sentelle accepted as law of the case the views of Judges

Randolph and Tatel that the court had jurisdiction to reach the merits. See *id.* at A19-A20. Because the judgment advocated by Judge Randolph (*i.e.*, that the petitions for review be denied) was "closest to that which [Judge Sentelle] would issue," Judge Sentelle joined in that disposition. *Id.* at A20.

c. Judge Tatel dissented. Pet. App. A21-A58. He concluded that at least one petitioner, the Commonwealth of Massachusetts, had established standing to sue. *Id.* at A27-A31. On the merits, Judge Tatel would have held that EPA possessed statutory authority to regulate greenhouse gas emissions from motor vehicles in order to address global climate change. *Id.* at A31-A42. Judge Tatel further concluded that the policy considerations identified by EPA did not justify the agency's refusal to initiate a rulemaking, and that the petition for review therefore should be granted. See *id.* at A44-A58.

SUMMARY OF ARGUMENT

The court of appeals properly denied petitioners' request to compel EPA to undertake regulation of greenhouse gas emissions from new motor vehicles at this time.

I. As a threshold matter, the petition for review is not suitable for judicial resolution because petitioners lack Article III standing. Petitioners have failed to carry their burden of establishing that they will be harmed by the specific agency action they challenge—EPA's decision not to regulate greenhouse gas emissions from new motor vehicles within the United States, which involves only a tiny fraction of global greenhouse gas emissions—or that their anticipated injuries would be materially alleviated by the judicial ruling they seek. Moreover, petitioners' theory of causation and redressability depends on predictions by their declarants that EPA regulation will set in motion an elaborate sequence of events involving independent choices by non-federal actors, including foreign governments.

Those predictions are far too speculative to establish Article III standing.

II. In any event, even if petitioners had established standing, EPA properly denied the petition for rulemaking. EPA reasonably concluded that it lacks authority to regulate greenhouse gas emissions from new motor vehicles in order to address global climate change. EPA recognized that key provisions of the CAA cannot coherently be applied to greenhouse gas emissions; that more recent laws reflect Congress's intent to assimilate more information as a predicate to legislation or international agreements to address global climate change; and that regulation of greenhouse gas emissions would have extraordinary economic and political ramifications. Under *FDA* v. *Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000), those considerations amply support the agency's determination that the CAA's general provisions do not vest EPA with regulatory authority in this area.

III. EPA also reasonably declined to exercise any regulatory authority that it might possess in this sphere. Under background principles of administrative law, an agency's decision *not* to initiate a rulemaking may be based on a wide range of discretionary factors and is reviewed under a highly deferential standard. Contrary to petitioners' contention, Section 202(a)(1) of the CAA does not divest EPA of that customary discretion. To the contrary, that Section must be read in light of that well-established background of discretion. Section 202(a)(1) states that EPA must undertake rulemaking *if* the agency renders a judgment that a pollutant meets the statutory endangerment standard, but it does not impose any deadline by which EPA must make such a determination with respect to particular pollutants. EPA identified a variety of sound reasons—including the "[s]ubstantial scientific uncertainties" (Pet. App. A84) that surround this issue, while major federal studies are being conducted—for declining to determine at this time whether the

greenhouse gases at issue meet the endangerment standard. There is no basis on the present administrative record for this Court to overturn that considered agency judgment.

ARGUMENT

Global climate change is one of the most important and widely debated scientific, economic, and political issues of our time. While the science of global climate change is evolving and remains subject to substantial debate and uncertainties, the United States has established a multifaceted approach to studying and addressing that complex and important issue. As part of that effort, the United States has allocated more than 29 billion dollars during the years 2001-2006—more than any other nation—for scientific research into global climate change and for climate-related programs; has committed to significantly reducing the greenhouse gas intensity of the American economy over the next decade; has entered into extensive partnerships with private industries designed to reduce greenhouse gas emissions; has entered into multilateral and bilateral agreements with other nations to seek a cooperative international approach to addressing global climate change; and has become the largest funder of activities under the United Nations Framework Convention on Climate Change.[2] As ongoing scientific studies provide additional information about the problem and potential solutions, the United States stands ready to take further measures and to work with the rest of the world to address the phenomenon of climate change.

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[2] See generally Pet. App. A88-A92; <http://www.epa.gov/climatechange/> (visited Oct. 24, 2006); <http://www.state.gov/g/oes/rls/fs/46741.htm> (visited Oct. 24, 2006); <http://www.whitehouse.gov/ceq/global-change.html> (visited Oct. 24, 2006); <http://www.whitehouse.gov/news/releases/2006/07/20060711-7.html> (visited Oct. 24, 2006).

This case, however, does not concern the adequacy of those broader efforts. Rather, the case presents more modest issues concerning the standing of petitioners to seek relief in federal court and the legality of EPA's decision not to initiate a rulemaking with respect to greenhouse gas emissions from new motor vehicles at this time. Under established principles of federal jurisdiction, statutory interpretation, and administrative law, petitioners' challenge to that agency decision fails, both because petitioners lack Article III standing and, alternatively, because EPA's denial of the rulemaking petition was lawful. Rejection of petitioners' challenge will in no way foreclose additional steps by the United States government to address global climate change or subsequent litigation concerning those efforts. Nor will it prevent Congress from acting to clarify its intent with respect to EPA's role in this area. It will simply block the efforts of these would-be litigants to enlist the courts to force EPA to undertake immediate regulation of greenhouse gas emissions from new motor vehicles.

I. PETITIONERS LACK ARTICLE III STANDING

All parties invoking the jurisdiction of the federal courts must "carry the burden of establishing their standing under Article III" of the Constitution. *DaimlerChrysler Corp.* v. *Cuno*, 126 S. Ct. 1854, 1860-1861 (2006). That bedrock requirement is designed to "ensur[e] that the Federal Judiciary respects the proper—and properly limited—role of the courts in a democratic society." *Id.* at 1860 (internal quotation marks omitted). When a plaintiff fails to demonstrate standing to bring an action, "the courts have no business deciding it, or expounding the law in the course of doing so." *Id.* at 1861. Those considerations are particularly apt in this case, where petitioners seek a judicial order directing EPA to regulate in a sphere of great economic and political significance.

To establish standing, a plaintiff must show not only "injury in fact," but also that there is "a causal connection between the injury and the conduct complained of," so that the plaintiff's injury is "fairly . . . trace[able] to the challenged action of the defendant, and not . . . th[e] result [of] the independent action of some third party not before the court." *Lujan* v. *Defenders of Wildlife*, 504 U.S. 555, 560 (1992) (quoting *Simon* v. *Eastern Ky. Welfare Rights Org.*, 426 U.S. 26, 41-42 (1976)). The plaintiff also must show that it is "'likely,' as opposed to merely 'speculative,' that the injury will be 'redressed by a favorable decision.'" *Id.* at 561 (quoting *Simon*, 426 U.S. at 38, 43). In cases like this one, where a special jurisdictional provision authorizes direct review of federal agency action by a court of appeals, the petitioner may be required to submit declarations setting forth specific facts that establish all three elements of Article III standing.[3]

Judge Tatel concluded, in dissent, that petitioners' declarations established Article III standing at least with respect to the Commonwealth of Massachusetts. See Pet. App. A27-A31. In his view, petitioners adequately demonstrated injury in fact

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[3] A petition for review in the District of Columbia Circuit is the exclusive avenue for seeking judicial review of EPA decisions like the one at issue here. See 42 U.S.C. 7607(b)(1). Under that Circuit's precedent, standing issues are typically decided on the basis of declarations supplied by the parties in the court of appeals. See generally *Sierra Club* v. *EPA*, 292 F.3d 895, 898-901 (D.C. Cir. 2002); Pet. App. A8-A9; see also D.C. Cir. R. 15(c)(2), 28(a)(7) (July 2006). The standard of review for such issues is akin to that applicable at the summary-judgment stage in a district court proceeding. See *Sierra Club*, 292 F.3d at 899. As this Court has explained, "each element of Article III standing must be supported in the same way as any other matter on which the plaintiff bears the burden of proof, *i.e.*, with the manner and degree of evidence required at the successive stages of the litigation," and "a plaintiff must set forth by affidavit or other evidence specific facts to survive a motion for summary judgment." *Bennett* v. *Spear*, 520 U.S. 154, 167-168 (1997) (citations and internal quotation marks omitted).

through declarations predicting that greenhouse gas emissions will lead to global warming, which in turn will cause rising sea levels, which in turn will "lead both to permanent loss of coastal land and to more frequent and severe storm surge flooding events along the coast." *Id.* at A27 (internal quotation marks omitted).[4] But even assuming that the available science supports such cataclysmic predictions, that is not enough. In order to establish causation and redressability, petitioners must further demonstrate that their anticipated injury is to a material extent attributable to the specific agency action they complain of—*i.e.*, EPA's decision not to regulate greenhouse gas emissions *from new motor vehicles within the United States*—and that a judicial decision requiring EPA to undertake such regulation is likely to have the ultimate effect of significantly alleviating that harm. Petitioners have failed to make those showings.

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[4] Petitioners also assert (Br. 6 n.5) standing on the ground that the EPA decision at issue here "threatens to have ripple effects on California's and other States' sovereign power to enforce State laws" because it may be invoked as a ground for holding state regulation of greenhouse gas emissions to be preempted. As petitioners' amici acknowledge (see Arizona Amici Br. 8 n.1), however, that argument was presented in the court of appeals only through a post-briefing letter submitted by California pursuant to Federal Rule of Appellate Procedure 28(j). Consistent with applicable circuit precedent, see *Sierra Club* v. *EPA*, 292 F.3d 895, 900-901 (D.C. Cir. 2002) (holding that a petitioner seeking direct court of appeals review of federal agency action must present all materials necessary to establish standing no later than in its opening brief), the court of appeals did not address that theory. Because that alternative standing theory was not presented in briefing to the court of appeals and that court did not pass upon it, the argument is not properly before this Court. See *Clingman* v. *Beaver*, 544 U.S. 581, 597-598 (2005). In any event, the States' concern, although it might provide a motivation for a State to file an amicus brief, is far too speculative to support a claim of standing.

A. Petitioners Have Failed To Demonstrate That The Regulation They Seek Is Likely To Affect Climatic Or Environmental Conditions In Massachusetts

Global climate change is, by definition, a global phenomenon. The greenhouse gases at issue here are "fairly consistent in concentration, everywhere along the surface of the earth." Pet. App. A73. The vast majority—as much as 80 percent—of all greenhouse gas emissions emanate from countries other than the United States. See J.A. 238. For that reason, reducing greenhouse gas emissions within the United States is unlikely, as a general matter, to have a significant long-term impact on climatic conditions in this country without reductions of greenhouse gas emissions in other parts of the world. Moreover, even within the United States, petitioners' own declaration indicates that nearly 70% of United States greenhouse gas emissions are from *non*-transportation sources and thus would not be affected by the rulemaking petitioners request. See *ibid.* One of petitioners' declarations states that, during the 1990s, "the U.S. transportation sector (mainly automobiles) was responsible for about 7% of global fossil fuel emissions." *Ibid.*

Even that 7% figure substantially overstates the potential impact of the regulation that petitioners advocate. Because EPA's regulatory authority under 42 U.S.C. 7521(a) is limited to *new* motor vehicles, only a very small fraction (significantly less than 7%) of worldwide greenhouse gas emissions could potentially be affected by the rulemaking that petitioners have asked EPA to initiate. And even with respect to new vehicles, petitioners recognize (Br. 19-20) that EPA could not mandate a total cessation of greenhouse gas emissions. The requested EPA rulemaking would therefore result in, at most, a tiny percentage reduction in worldwide greenhouse gas emissions. Nothing in the record suggests that so small a fraction of worldwide greenhouse gas emissions could materially affect the

overall extent of global climate change. Petitioners' declarations therefore do not establish that the regulatory action they seek, standing alone, would have any material impact on climatic or environmental conditions within Massachusetts.

B. Petitioners' Predictions Concerning The Possible Indirect Effects Of EPA Regulation Are Too Speculative To Establish Causation And Redressability

Petitioners do not appear to dispute the foregoing analysis. The declarations they submitted in the court of appeals contained no discussion of the direct effects on global climatic conditions (or conditions in Massachusetts) of reductions in greenhouse gas emissions from new motor vehicles in the United States. Rather, those declarations predict that the requested rulemaking would set in motion an elaborate chain of events, including (i) investment in improved technology; (ii) development of technological innovations by private industry; (iii) emissions regulation by foreign governments; (iv) meaningful global reductions in emissions of greenhouse gases; (v) a significant climatic response to such emissions reductions decades in the future; and (vi) consequent alleviation in Massachusetts of its alleged injury (*e.g.*, coastal land loss).

For example, the declaration of Michael P. Walsh forecasts that "establishing emissions standards for pollutants that contribute to global warming would lead to investment in developing improved technologies to reduce those emissions from motor vehicles, and that successful technologies would gradually be mandated by other countries around the world." J.A. 244. The declaration of Michael C. McCracken similarly predicts that, "[i]f the U.S. takes steps to reduce motor vehicle emissions, other countries are very likely to take similar actions regarding their own motor vehicles using technology developed in response to the U.S. program, thereby multiplying the total emission reduction benefit of the U.S. action." J.A. 239. Peti-

tioners' theory of causation and redressability thus depends on projections that (a) EPA regulation of greenhouse gas emissions from new motor vehicles within the United States will spur technological advances by private industry, and (b) foreign governments, including foreign governments in developing countries that face added economic dilemmas, will mandate use of the resulting technology, thereby reducing greenhouse gas emissions worldwide.[5]

Given the highly speculative nature of those projections, petitioners cannot establish causation and redressability under ordinary standing principles. Because of the nature of their challenge, however, petitioners face a heightened burden in establishing the requisite causation and redressability. In *Defenders of Wildlife*, the Court explained that, in a suit "challenging the legality of government action or inaction," the showing needed to establish standing

> depends considerably upon whether the plaintiff is himself an object of the action (or forgone action) at issue. If he is, there is ordinarily little question that the action or inaction has caused him injury, and that a judgment preventing or

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[5] In its "Summary of Opinions" section, the McCracken Declaration states that "[a]chievable reductions in emissions of [carbon dioxide] and other greenhouse gases from U.S. motor vehicles would significantly reduce the build-up in atmospheric concentrations of these gases and delay and moderate many of the adverse impacts of global warming." J.A. 225-226. In light of the more detailed analysis set forth in subsequent paragraphs of the declaration, however, that statement is not naturally read as an assertion that emissions reductions from new United States motor vehicles, *in and of themselves*, would materially ameliorate global climate change. Rather, the declaration as a whole sets forth the view that such reductions would ultimately lead to the desired effects by spurring technological innovation and by inducing foreign governments to impose comparable limits. If the quoted sentence *was* intended as an assertion that EPA motor vehicle regulation by itself would materially impact worldwide climatic conditions, it is unsupported by specific facts and is far too conclusory and farfetched to establish causation and redressability.

> requiring the action will redress it. When, however, as in this case, a plaintiff's asserted injury arises from the government's allegedly unlawful regulation (or lack of regulation) of *someone else*, much more is needed. In that circumstance, causation and redressability ordinarily hinge on the response of the regulated (or regulable) third party to the government action or inaction—and perhaps on the response of others as well. The existence of one or more of the essential elements of standing depends on the unfettered choices made by independent actors not before the courts and whose exercise of broad and legitimate discretion the courts cannot presume either to control or predict, * * * and it becomes the burden of the plaintiff to adduce facts showing that those choices have been or will be made in such manner as to produce causation and permit redressability of injury.

504 U.S. at 561-562 (citations and internal quotation marks omitted); see *Simon*, 426 U.S. at 45.

Petitioners, of course, do not challenge EPA's regulation of their own conduct. They contend instead that EPA's refusal to regulate the manufacturers of new motor vehicles will cause petitioners injury, and that EPA's exercise of regulatory authority would alleviate that harm. Under *Defenders of Wildlife*, the elaborate chain of events that petitioners claim will ultimately ameliorate the effects of climate change in Massachusetts falls far short of the "much more" (504 U.S. at 562) that is needed to establish causation and redressability.

Depending on the stringency of the limits that the agency imposed, EPA regulation of greenhouse gas emissions from new motor vehicles in the United States might ultimately lead to technological improvements developed to facilitate compliance with the new requirements. The nature of any such inno-

vations, however, is at this point a matter of pure conjecture.[6] Petitioners' forecasts concerning foreign governments' likely responses to EPA regulation are even more speculative. Foreign sovereigns are paradigmatic "independent actors * * * whose exercise of broad and legitimate discretion the courts cannot presume either to control or to predict." *Defenders of Wildlife*, 504 U.S. at 562 (quoting *ASARCO Inc.* v. *Kadish*, 490 U.S. 605, 615 (1989) (opinion of Kennedy, J.)). As experience demonstrates, foreign governments may respond "in different ways" to global climate change, "depending on their perceptions of wise state [environmental] policy and myriad other circumstances." *ASARCO*, 490 U.S. at 615 (opinion of Kennedy, J.).

At least absent a treaty or similar binding arrangement whereby a foreign government has *committed* to respond in specific ways to particular United States actions, it is neither

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[6] A plaintiff cannot establish causation and redressability simply by showing that particular government action would create a financial inducement to the private conduct that the plaintiff desires. In *Simon*, the Court held that indigent plaintiffs lacked standing to challenge the decision of the Internal Revenue Service (IRS) to grant tax-exempt status to hospitals that refused to serve indigents. See 426 U.S. at 32-33, 40-46. The Court found it "purely speculative whether the denials of service specified in the complaint fairly can be traced to [the IRS's] 'encouragement' or instead result from decisions made by the hospitals without regard to the tax implications." *Id.* at 42-43. In *Allen* v. *Wright*, 468 U.S. 737 (1984), the Court reached a similar conclusion, holding that plaintiffs who alleged an impairment of their ability to have their children educated in a racially integrated setting lacked standing to challenge the IRS's grant of tax exemptions for certain racially discriminatory private schools. See *id.* at 756-761. The Court explained, *inter alia*, that it was "entirely speculative * * * whether withdrawal of a tax exemption from any particular school would lead the school to change its policies." *Id.* at 758. Furthermore, with or without greenhouse gas regulation, automobile manufacturers have significant legal and economic incentives to improve fuel efficiency. Those incentives make it particularly difficult for petitioners to show that regulation under the CAA would be the cause of significant technological innovations.

feasible nor appropriate for a federal court to predict the likely response of a foreign sovereign to EPA regulation in the domestic sphere. Reliance on petitioners' forecasts as a basis for federal jurisdiction would be especially inappropriate here. Those predictions are not based on analysis of the unique aspects of the issue of global climate change or of the likely future behavior of foreign governments in this distinct context. Moreover, those forecasts are directly contrary to EPA's expressed concern that "[u]nilateral EPA regulation of motor vehicle [greenhouse gas] emissions could * * * *weaken* U.S. efforts to persuade key developing countries to reduce the [greenhouse gas] intensity of their economies," Pet. App. A86 (emphasis added), and they are inconsistent with the United States' experience in addressing stratospheric ozone depletion, see *id.* at A86 n.5.[7]

C. Petitioners' Accounts Of Previous Regulatory Undertakings Are Insufficient To Establish Standing

The Walsh Declaration asserted that, because motor vehicle emissions standards previously imposed in the United States have led to technological improvements and to parallel emissions limits imposed by foreign governments, EPA regulation of greenhouse gas emissions would likely have the same result. See J.A. 242-243. Petitioners' description of prior regulatory

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[7] Stratospheric ozone depletion formerly presented a global phenomenon similar to global climate change. The United States' experience in addressing that problem during the 1980s reinforces the concern that, when the harms caused by emissions in one country are spread throughout the world, unilateral regulatory action by the United States is unlikely to induce foreign governments to undertake comparable measures. As EPA explained, unilateral "U.S. controls on substances that deplete stratospheric ozone were * * * more than offset by emission increases in other countries. The U.S. did not impose additional domestic controls on stratospheric ozone-depleting substances until key developed and developing nations had committed to controlling their own emissions." Pet. App. A86 n.5.

episodes is a wholly inadequate basis for concluding that Article III's requirements have been satisfied here. The plaintiffs in *Simon* and *Allen* (see note 6, *supra*) surely could not have established causation and redressability simply by identifying prior instances in which economic actors had altered their behavior in response to changes in the tax laws.

Petitioners' reliance on prior emissions regulation by foreign governments is particularly misconceived. The fact that greenhouse gases are evenly concentrated throughout the world creates a distinct obstacle to unilateral emissions regulation by any single government, since the country that imposes such limits may bear a substantial economic burden but will receive only a small share of any resulting benefit. The prior willingness of foreign sovereigns to follow the United States' lead by mandating reductions in *other* types of emissions—which lead to greater localized environmental hazards, such as smog—therefore does not suggest that unilateral EPA regulation of greenhouse gas emissions by new motor vehicles in the United States would be likely to have the same result. Indeed, the global nature of the phenomenon at issue provides a classic situation in which countries—particularly developing countries—may seek a "free ride" from expensive regulation self-imposed by other nations. See note 7, *supra*.

Because petitioners lack Article III standing to maintain this action, this case should be remanded to the court of appeals with instructions to dismiss the petition for review for lack of jurisdiction, and this Court should refrain from "expounding" (*Cuno*, 126 S. Ct. at 1861) on the case. Indeed, the restraint imposed by Article III's standing requirement is particularly appropriate in cases such as this, given the economic and political sensitivity of the regulation that petitioners seek to force

EPA to undertake, and the significant scientific uncertainty concerning global climate change.[8]

II. EPA REASONABLY CONCLUDED THAT THE CAA DOES NOT AUTHORIZE IT TO REGULATE EMISSIONS OF GREENHOUSE GASES TO ADDRESS CONCERNS ABOUT GLOBAL CLIMATE CHANGE

On the merits, petitioners argue (*e.g.*, Br. 12) that, because carbon dioxide and other greenhouse gases emitted from motor vehicles are "substance[s] or matter which [are] emitted into or otherwise enter[] the ambient air," 42 U.S.C. 7602(g), those gases are encompassed by the CAA's definition of "air pollutant" and are therefore subject to EPA regulation. Petitioners do not contend, however, that Congress specifically contemplated the application of the CAA to regulatory control of greenhouse gas emissions to address global climate change, either when Congress enacted the definition of "air pollutant," see *ibid.*, or when it authorized EPA to regulate emissions from new motor vehicles, see 42 U.S.C. 7521(a). Nor do they account for more recent statutes that specifically address carbon dioxide emissions and global climate change, and indicate that EPA lacks authority to regulate such matters under the general provisions on which petitioners rely.

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[8] Judge Randolph concluded that petitioners' declarations were sufficient to create genuine issues of fact as to each of the three elements of standing, see Pet. App. A7-A8, and proceeded to the merits of petitioners' claims, see *id.* at A9. For the reasons stated above, however, as a matter of law, petitioners have failed to "set forth * * * specific facts," *Defenders of Wildlife*, 504 U.S. at 561 (internal quotation marks omitted), that, if believed, would establish causation and redressability. Because petitioners have failed to present evidence sufficient to carry their burden at this stage of the litigation (see note 3, *supra*), the court of appeals lacked authority to reach the merits of petitioners' claims, and the petitions for review should have been dismissed for want of jurisdiction. See *Steel Co.* v. *Citizens for a Better Env't*, 523 U.S. 83, 93-102 (1998).

Standing alone, the enacting Congress's failure specifically to contemplate the CAA's application to greenhouse gases does not mean that such applications are automatically precluded. See, *e.g.*, *Pennsylvania Dep't of Corr.* v. *Yeskey*, 524 U.S. 206, 212 (1998). EPA responsibly recognized, however, that this Court's recent decision in *FDA* v. *Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000), "cautions agencies against using broadly worded statutory authority to regulate in areas raising unusually significant economic and political issues when Congress has specifically addressed those areas in other statutes." Pet. App. A68. That principle counsels against interpreting the CAA to encompass the inchoate authority to regulate the type of emissions at issue here. Indeed, as EPA observed, "[i]t is hard to imagine any issue in the environmental area having greater 'economic and political significance' than regulation of activities that might lead to global climate change." *Id.* at A76.

In *Brown & Williamson*, this Court held that the Food and Drug Administration (FDA) lacked authority under the Federal Food, Drug, and Cosmetic Act (FDCA), 21 U.S.C. 301 *et seq.*, to regulate tobacco products. See 529 U.S. at 133-161. The Court assumed, arguendo, that cigarettes and smokeless tobacco are encompassed by the FDCA's definition of "drug delivery device[]." *Id.* at 131-132. The Court recognized, however, that reading the FDCA to cover tobacco products was inconsistent with Congress's actions concerning tobacco in more recent statutes, see *id.* at 143, and it noted that "the meaning of one statute may be affected by other Acts, particularly where Congress has spoken subsequently and more specifically to the topic at hand," *id.* at 133. The Court further explained that it "must be guided to a degree by common sense as to the manner in which Congress is likely to delegate a policy decision of such economic and political magnitude to an administrative agency." *Ibid.*; see *Whit-*

man v. *American Trucking Ass'ns*, 531 U.S. 457, 468 (2001) (citing, *inter alia*, *Brown & Williamson* in explaining that Congress "does not, one might say, hide elephants in mouseholes").

Based on analogous considerations, EPA reasonably determined that it lacks authority to address the threat of global climate change by regulating greenhouse gas emissions from new motor vehicles. EPA explained that key provisions of the CAA cannot cogently be applied to such emissions, and that a broad range of legislation evidences Congress's intent to obtain additional information before regulating in this controversial sphere. Pet. App. A70-A74, A79-A80. EPA also observed that regulation of greenhouse gas emissions would potentially have even greater economic and political implications than tobacco regulation. *Id.* at A76. EPA concluded that the relevant provisions of law, taken as a whole, were best construed not to authorize regulation under the CAA of greenhouse gas emissions for the purpose of addressing global climate change. That self-restrained determination is reasonable and is entitled to deference under the principles of *Chevron U.S.A. Inc.* v. *NRDC*, 467 U.S. 837 (1984).

Petitioners make the extravagant claim that "EPA's interpretation deserves no deference." Pet. Br. 9. But where, as here, Congress has not directly spoken to an issue, neither *Chevron* nor any other precedent of this Court precludes an agency from exercising prudence or self-restraint in determining whether, or how, to regulate a problem of such enormous economic and political magnitude as global climate change. Acceptance of petitioners' position would suggest that agencies are subject to a presumptive duty to regulate whenever a statute arguably authorizes regulation, even with respect to issues as to which awaiting direct congressional

guidance or the results of ongoing studies would be most responsible and beneficial.[9]

A. Key Provisions Of The CAA Cannot Coherently Be Applied To Greenhouse Gas Emissions

1. In determining whether the CAA authorizes regulation of greenhouse gases to address the threat of global climate change, EPA appropriately considered whether a principal CAA mechanism for controlling pervasive air pollutants—the NAAQS system, see 42 U.S.C. 7408-7410—could feasibly be used to address carbon dioxide emissions. See Pet. App. A72-A74. As EPA explained, the NAAQS regime has traditionally been directed at controlling pollutants at or near the surface of the earth. *Id.* at A72. "Concentrations of these substances generally vary from place to place as a result of differences in local or regional emissions and other factors (e.g., topography)." *Ibid.* Congress expected that there would be material differences among the States in their efforts to meet the NAAQS, and it therefore directed EPA to designate "attainment" and "nonattainment" areas for particular pollutants, with more stringent requirements generally applying to nonattainment areas. See 42 U.S.C. 7407(d), 7501-7515.

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[9] As petitioners observe (Br. 3), two prior EPA general counsels had expressed the view that the agency was authorized to regulate greenhouse gas emissions under the CAA. See note 1, *supra*. In denying ICTA's petition for rulemaking, however, EPA acknowledged those earlier statements, see Pet. App. A68, expressly adopted the contrary position, *id.* at A69, and explained in detail the bases for that decision, see *id.* at A68-A80. Under those circumstances, EPA's current interpretation of the relevant CAA provisions is entitled to judicial deference. See, *e.g.*, *National Cable & Telecomms. Ass'n* v. *Brand X Internet Servs.*, 125 S. Ct. 2688, 2699-2700 (2005). Moreover, even when EPA general counsels believed that the agency possessed the *authority* to regulate greenhouse gas emissions, EPA nevertheless declined to *exercise* that authority. There is consequently an unbroken agency practice of declining to regulate in this sphere. See pp. 44-45, *infra*.

By contrast, carbon dioxide—the most pervasive anthropogenic greenhouse gas—is well-mixed globally throughout the atmosphere and persists there for roughly 50 to 200 years. Pet. App. A73. With respect to carbon dioxide emissions, EPA would therefore have no practical basis for distinguishing between attainment and nonattainment areas. And if EPA established a NAAQS for carbon dioxide that called for a reduction from present concentrations, the entire Nation would be subject to the stringent CAA limitations that apply to nonattainment areas, even though the success of state efforts to achieve the applicable standard would depend on the willingness of foreign governments to undertake parallel measures to reduce worldwide carbon dioxide emissions. *Ibid.*; see pp. 14-18, *supra*. "Such a situation would be inconsistent with a basic underlying premise of the CAA regime for implementation of a NAAQS—that actions taken by individual states and by EPA can generally bring all areas of the U.S. into attainment of a NAAQS." *Ibid.*

2. The petition for rulemaking in this case did not request that EPA promulgate NAAQS for greenhouse gases, but instead sought regulation of greenhouse gas emissions from new motor vehicles. See J.A. 43. At present, however, the only practical way of meaningfully reducing motor-vehicle emissions of the greenhouse gases at issue here is by improving fuel economy. See Pet. App. A79, A87; see also 71 Fed. Reg. 17,654 (2006). Because the emissions limits that petitioners advocate would function in practical effect as fuel-economy regulations, EPA's adoption of such limits would subvert the implementation by the Department of Transportation (DOT) of the Energy Policy and Conservation Act (EPCA), 49 U.S.C. 32901-32919. See Pet. App. A77, A79-A80.

In EPCA, "Congress has already created a detailed set of mandatory standards governing the fuel economy of cars and light duty trucks, and has authorized DOT—not EPA—to

implement those standards." Pet. App. A79. EPCA offers automakers substantial flexibility to choose appropriate methods of meeting fleetwide standards, and it provides for congressional oversight of standards promulgated by DOT pursuant to the statute. See *id.* at A79-A80. The tension between the EPCA and CAA regimes would be particularly acute for "non-passenger" vehicles (which include light trucks and SUVs), for which EPCA requires DOT to set fuel-economy standards at the "maximum feasible" level. 49 U.S.C. 32902(a); see, *e.g.*, 71 Fed. Reg. 17,588 (2006). An EPA-imposed emissions limit that effectively required manufacturers to satisfy fuel-economy standards *above* the level determined by DOT to be the "maximum feasible" would directly clash with DOT's administration of EPCA. Based on the considerable evidence that Congress intended EPCA to be exclusive, EPA reasonably concluded that, "[e]ven if [greenhouse gases] were air pollutants generally subject to regulation under the CAA, Congress has not authorized the Agency to regulate [carbon dioxide] emissions from motor vehicles to the extent such standards would effectively regulate the fuel economy of passenger cars and light duty trucks." Pet. App. A79.

Accordingly, greenhouse gas emissions "simply do not fit," *Brown & Williamson*, 529 U.S. at 143, within key aspects of the regulatory regime established by the CAA. The physical characteristics of carbon dioxide preclude cogent application of the NAAQS. And any attempt by EPA to mandate reductions of greenhouse gas emissions from new motor vehicles would subvert Congress's determination that the EPCA fuel-economy standards should be exclusive.

B. Various Federal Statutes Reflect Congress's Intent To Obtain Additional Information Before Undertaking Any Regulation Of Greenhouse Gas Emissions

The Court in *Brown & Williamson* observed that "the meaning of one statute may be affected by other Acts, particularly where Congress has spoken subsequently and more specifically to the topic at hand." 529 U.S. at 133. A variety of statutory provisions, both within the CAA and in other legislation, have addressed the subjects of carbon dioxide emissions and global climate change, as well as the analogous issue of stratospheric ozone depletion. Most of those provisions were enacted far more recently, and are therefore more probative of the *current* meaning of the statutory scheme, than the general CAA provisions on which petitioners rely. Taken together, those intervening enactments strongly indicate that EPA lacks authority under the CAA in its current form to regulate greenhouse gas emissions in order to address global climate change. See Pet. App. A69-A72.

1. Three provisions added to the CAA in 1990 specifically refer to carbon dioxide or global warming. Section 103(g)(1) of the Act refers to carbon dioxide in calling for the development of pollution prevention "strategies and technologies." See 42 U.S.C. 7403(g)(1). Section 602(e) of the Act, 42 U.S.C. 7671a(e), directs EPA to determine and publish the "global warming potential" of each of several listed substances. And Section 821 of the CAA Amendments of 1990, see Pub. L. No. 101-549, 104 Stat. 2699 (42 U.S.C. 7651k note), directs EPA to obtain and make available information concerning carbon dioxide emissions by certain regulated utilities.

In enacting those provisions, however, Congress expressly declined to authorize EPA to impose emissions limits. In five separate places, Section 103(g) of the CAA states that the "strategies and technologies" developed by EPA are to be

"nonregulatory." See 42 U.S.C. 7403(g), 7403(g)(1)-(4). Section 103(g) further provides that "[n]othing in this subsection shall be construed to authorize the imposition on any person of air pollution control requirements." 42 U.S.C. 7403(g). Section 602(e) similarly states that the requirement to identify the global warming potential of various substances "shall not be construed to be the basis of any additional regulation under this chapter." 42 U.S.C. 7671a(e). And Section 821 of the CAA Amendments of 1990, like Section 602(e) of the CAA, is directed solely at information-gathering.

Since these are the only CAA provisions that specifically address either carbon dioxide emissions or global warming, and since they provide only for information collection or other nonregulatory action, they strongly suggest a congressional understanding that EPA lacks authority under the Act to regulate greenhouse gas emissions for the purpose of addressing global climate change. At a minimum, those provisions reflect a con ressional preference that any general authority EPA might possess in this area *not* be exercised in a regulatory manner. Congress's current preference for nonregulatory measures is wholly understandable and prudent in light of the significant complexity and uncertainty surrounding this issue and the enormous potential economic and political consequences of regulating in this area.

2. Congress has enacted several statutory provisions outside the CAA that mandate research and inter-agency coordination to inform future legislative efforts and negotiations with foreign governments to address the subject of global climate change. See Pet. App. A74-A75.[10] As EPA explained,

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[10] The National Climate Program Act, 15 U.S.C. 2901 *et seq.*, called for, *inter alia*, "basic and applied research to improve the understanding of climate processes, natural and man induced, and the social, economic, and political implications of climate change." 15 U.S.C. 2904(d)(2). The Global Climate Protection Act of 1987, Pub. L. No. 100-204, §§ 1101-1106, 101 Stat. 1407-1409

> [w]ith these statutes, Congress sought to develop a foundation for considering whether future legislative action on global climate change was warranted and, if so, what that action should be. From federal agencies, it sought recommendations for national policy and further advances in scientific understanding and possible technological responses. It did not authorize any federal agency to take any regulatory action in response to those recommendations and advances.

Id. at A74. EPA reasonably viewed that pattern of "consistent congressional action to learn more about the global cli-

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(15 U.S.C. 2901 note), directed EPA to "develop[] and propos[e] to Congress a coordinated national policy on global climate change," § 1103(b), 101 Stat. 1408, and directed EPA and the Department of State to "jointly" report to Congress on their strategy for achieving "international cooperation to limit global climate change," § 1104(3), 101 Stat. 1409. The Global Change Research Act of 1990, Pub. L. No. 101-606, Tit. I, 104 Stat. 3096 (15 U.S.C. 2921-2938), contained a congressional finding that "human-induced changes, in conjunction with natural fluctuations, may lead to significant global warming and thus alter world climate patterns and increase global sea levels." 15 U.S.C. 2931(a)(2). The Act established various mechanisms, including the creation of a Committee on Earth and Environmental Sciences (see 15 U.S.C. 2932), to "provide for development and coordination of a comprehensive and integrated United States research program which will assist the Nation and the world to understand, assess, predict, and respond to human-induced and natural processes of global change." 15 U.S.C. 2931(b). The Global Climate Change Prevention Act of 1990, Pub. L. No. 101-624, §§ 2401-2412, 104 Stat. 4058-4062 (7 U.S.C. 6701 *et seq.*), directed the Department of Agriculture to "study the effects of global climate change on agriculture and forestry." § 2403(a)(1), 104 Stat. 4059 (7 U.S.C. 6702(a)(1)). The Energy Policy Act of 1992, Pub. L. No. 102-486, §§ 1601-1609, 106 Stat. 2999-3008 (42 U.S.C. 13381-13388), directed the Secretary of Energy to compile, analyze, and report various categories of information pertaining to global climate change. See, *e.g.*, § 1604, 106 Stat. 3002 (42 U.S.C. 13384) (directing the Secretary to "transmit a report to Congress containing a comparative assessment of alternative policy mechanisms for reducing the generation of greenhouse gases").

mate change issue before specifically authorizing regulation to address it" as strong evidence that the CAA did not *already* authorize regulatory activity in this area. *Id.* at A75.[11]

3. The method by which Congress addressed the phenomenon of stratospheric ozone depletion is also illuminating. See Pet. App. A71-A72. "Like global climate change, the causes and effects of stratospheric ozone depletion are global in nature. Anthropogenic substances that deplete stratospheric ozone are emitted around the world and are very long-lived; their depleting effects and the consequences of those effects occur on a global scale." *Ibid.*; see generally 53 Fed. Reg. 30,566 (1988); 57 Fed. Reg. 33,754 (1992). As EPA explained, "Congress specifically addressed the problem in a separate portion of the [CAA] * * * that recognized the global nature of the problem and called for negotiation of international agreements to ensure world-wide participation in research and any control of stratospheric ozone-depleting substances." Pet. App. A72.[12]

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[11] EPA further observed that "Congress declined to adopt other legislative proposals, contemporaneous with the bills to amend the CAA in 1989 and 1990, to require [greenhouse gas] emissions reductions from stationary and mobile sources." Pet. App. A74-A75. Subsequent to the 1990 amendments to the CAA, a number of additional bills that would have mandated EPA regulation of greenhouse gas emissions have been introduced but not enacted. See Gov't C.A. Br. 52-53 & n.22. Of course, Congress may direct EPA to undertake regulation of greenhouse gases at any time that it sees fit. Absent such explicit congressional action, however, it would be anomalous for the courts to direct EPA to take that significant regulatory step, especially against the backdrop of the actions that Congress *has* taken in this realm.

[12] In 1977 Congress amended the CAA to add a new Part B, entitled "Ozone Protection," to Title I of the Act. See 42 U.S.C. 7450-7459 (1988). Those provisions were principally focused on developing the information needed to confirm the theory, understand the effects, and develop methods for control. See, *e.g.*, 42 U.S.C. 7450, 7453, 7454 (1988). Congress also directed the President to undertake to enter into international agreements for cooperative research and regulations, and it provided EPA with specific regulatory

Thus, in addressing the global problem of stratospheric ozone depletion, Congress avoided the possibility of piecemeal regulation by enacting new legislation that was specifically directed at the issue and called for international cooperation. That legislative approach provides persuasive evidence of Congress's intent with respect to the analogous issue of global climate change. As EPA explained, "[i]n light of this CAA treatment of stratospheric ozone depletion, it would be anomalous to conclude that Congress intended EPA to address global climate change under the CAA's general regulatory provisions, with no provision recognizing the international dimension of the issue and any solution, and no express authorization to regulate." Pet. App. A72.

4. The history of the Kyoto Protocol to the United Nations Framework Convention on Climate Change, *opened for signature*, Mar. 16, 1998, 37 I.L.M. 32, reinforces EPA's conclusion that Congress did not intend the agency to regulate greenhouse gas emissions under the CAA. The Protocol was agreed to in 1997 and generally called for industrialized countries to cut their combined emissions to five percent below 1990 levels by 2008 to 2012. See U.N. Framework Convention on Climate Change, *Kyoto Protocol* (visited Oct. 24, 2006) <http://unfccc.int/essential_background/

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authority to avoid reasonably anticipated harm to the stratosphere. 42 U.S.C. 7456, 7457 (1988). In 1989, after the discovery of a seasonal hole in the stratospheric ozone layer over Antarctica in 1985, 29 nations (including the United States) ratified the Montreal Protocol on Substances that Deplete the Ozone Layer, Sept. 16, 1987, S. Treaty Doc. No. 100-10, 1522 U.N.T.S. 29 (Montreal Protocol), which set limits on the production and consumption of various substances that contribute to ozone depletion. See generally S. Rep. No. 228, 101st Cong., 1st Sess. 383 (1989). In 1990, Congress enacted additional CAA amendments that repealed Part B of Title I and replaced it with a new Title VI establishing a more comprehensive regulatory program, consistent with the Montreal Protocol, to control substances that deplete stratospheric ozone and their substitutes. See 42 U.S.C. 7671-7671q.

kyoto_protocol/items/2830.php> (*Kyoto* Website). Although it was initially signed by the United States, the United States subsequently made clear that it does not intend to become a party, and the Protocol was never submitted to the Senate for advice and consent to ratification. See Pet. App. A75. Indeed, "the Senate in 1997 adopted by a 97-0 vote the Byrd-Hagel Resolution," which expressed the Senate's opposition to any international agreement "that would result in serious harm to the economy of the U.S. or that would mandate new commitments to limit or reduce U.S. [greenhouse gas] emissions" unless the agreement imposed parallel limitations on developing countries. *Ibid.* "Congress also attached language to appropriations bills that barred EPA from implementing the Kyoto Protocol without Senate ratification." *Ibid.* Those legislative actions reflect the opposition of both Houses of Congress to any unilateral action by EPA to regulate greenhouse gas emissions within the United States.[13]

C. Regulation Of Greenhouse Gas Emissions Within The United States Would Have Potentially Vast Economic And Political Consequences

The Court in *Brown & Williamson* also recognized that, if Congress intends to authorize an administrative agency to resolve an issue of great economic and political significance, "common sense" suggests that Congress will express that intent with reasonable specificity. See 529 U.S. at 133, 160.

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[13] Although the Kyoto Protocol was agreed to in 1997, it did not come into effect among its foreign signatories until February 2005 (well after the EPA decision at issue here), see *Kyoto* Website, and its efficacy remains the subject of intense political and scientific debate. See, *e.g.*, <http://www.state.gov/secretary/rm/2006/73913.htm> (Secretary of State Condoleeza Rice states that "the Kyoto targets are not being met" and that, "[e]ven if they were met, without China and India covered by Kyoto you're not going to deal with greenhouse gas emissions in an effective way.").

That concern applies with particular force in the instant case. As EPA explained,

> [i]t is hard to imagine any issue in the environmental area having greater "economic and political" significance than regulation of activities that might lead to global climate change. Virtually every sector of the U.S. economy is either directly or indirectly a source of [greenhouse gas] emissions, and the countries of the world are involved in scientific, technical, and political-level discussions about climate change.

Pet. App. A76; see *id.* at A76-A77 (explaining that anthropogenic carbon dioxide emissions are the direct result of the production of energy from fossil fuels—the power source for nearly all modes of transportation and approximately 70 percent of the electricity in this country).

Although the petition for rulemaking in this case sought the imposition of greenhouse gas emissions limits only with respect to new motor vehicles, the thrust of petitioners' argument is that greenhouse gases are literally encompassed by the CAA definition of "air pollutant" and must therefore be so regarded for purposes of *all* the Act's provisions. See, *e.g.*, Pet. Br. 12, 17. Moreover, given the global character of the problem to be addressed and the pervasive use of fossil fuels throughout the United States economy, Congress cannot reasonably be thought to have intended that EPA would regulate greenhouse gas emissions from new motor vehicles but from no other source—particularly when the establishment of fuel-economy requirements for motor vehicles is entrusted to a different federal agency (see pp. 24-25, *supra*). In assessing Congress's intent in light of the economic and political significance of the decision it was called upon to make, EPA therefore appropriately considered the practical ramifications of regulating greenhouse gas emissions generally.

D. EPA's Interpretation Of The CAA's Text Is Reasonable

Based on the considerations described above, EPA determined that "the CAA does not authorize regulation to address concerns about global climate change." Pet. App. A78. Examining the text of the statutory provisions upon which petitioners relied, EPA further determined that "[greenhouse gases], as such, are not air pollutants under the CAA's regulatory provisions, including sections 108, 109, 111, 112 and 202," and that "the term 'air pollution' as used in the regulatory provisions cannot be interpreted to encompass global climate change." *Ibid.* EPA explained (*ibid.*) that the term "air pollutant" is defined in Section 302(g) of the CAA to mean "any air pollution agent or combination of such agents, including any physical, chemical, biological, [or] radioactive * * * substance or matter which is emitted into or otherwise enters the ambient air," 42 U.S.C. 7602(g), and that greenhouse gases are not "agents" of air pollution for regulatory purposes because they do not cause cognizable "pollution" within the scope of the Act's regulatory provisions. Pet. App. A78.

Petitioners suggest (Br. 11) that EPA's construction of the CAA is suspect because the agency discussed other indicia of congressional intent before parsing the language of Sections 202 and 302(g). That is incorrect. EPA's conclusion as to the limits of its regulatory authority was firmly rooted in the text of *enacted laws*, including laws that specifically address global climate change and the analogous problem of stratospheric ozone depletion. The agency's approach was thus consistent with the "fundamental canon of statutory construction that the words of a statute must be read in their context and with a view to their place in the overall statutory scheme." *Davis* v. *Michigan Dep't of the Treasury*, 489 U.S. 803, 809 (1989). Petitioners are wrong in suggesting (Br. 23) that EPA should have disregarded the other statutory indicia

of congressional intent on the ground that those laws were enacted after Sections 202 and 302(g) of the CAA. As the Court observed in *Brown & Williamson*, "the meaning of one statute may be affected by other Acts, particularly where Congress has spoken subsequently and more specifically to the topic at hand." 529 U.S. at 133. In light of the Court's teaching in *Brown & Williamson*, it was hardly ultra vires for EPA to consider such potentially relevant laws in construing the CAA's earlier-enacted regulatory provisions.

Petitioners are also wrong in contending (Br. 12) that EPA's interpretation "ignore[s] * * * the plain text" of Section 302(g). In petitioner's view, the statutory phrase "any air pollution agent or combination of such agents" is essentially superfluous, because anything that could be viewed as falling with the subsequent "including" phrase, standing alone, necessarily qualifies as an "air pollutant." But EPA reasonably rejected that view, in favor of an interpretation that gives "air pollution agent" independent meaning. Pet. App. A79 n.3. There is no textual difficulty in that approach, under which the "including" phrase merely illustrates the kinds of substances that can qualify as "air pollution agents" without also mandating inclusion of substances that do *not*, in the agency's expert view, contribute to "air pollution." The phrase "any American automobile, including any truck or minivan," would not naturally be construed to encompass a foreign-manufactured minivan, and the same principle governs here.

Petitioners further contend (Br. 16-17) that, because carbon dioxide is specifically identified as an "air pollutant" for purposes of Section 103(g)(1) of the CAA (42 U.S.C. 7403(g)(1)), it is necessarily an "air pollutant" for purposes of Section 202(a)(1) as well. That inference is unwarranted. "Although [the Court] generally presume[s] that identical words used in different parts of the same act are intended to have the same meaning, * * * the presumption is not rigid,

and the meaning of the same words well may vary to meet the purposes of the law." *United States* v. *Cleveland Indians Baseball Co.*, 532 U.S. 200, 213 (2001) (citations, brackets, and internal quotation marks omitted). Section 103(g) of the CAA uses the word "nonregulatory" five times, and it states that "[n]othing in this subsection shall be construed to authorize the imposition on any person of air pollution control requirements." 42 U.S.C. 7403(g). Treating carbon dioxide as an "air pollutant" under Section 103(g)(1) and other nonregulatory provisions but not under Section 202(a)(1) is consistent with Congress's overall strategy of assimilating information about global climate change and possible responses thereto as a predicate for future action.

III. EPA REASONABLY EXERCISED ITS DISCRETION IN DETERMINING THAT, EVEN IF IT POSSESSED STATUTORY AUTHORITY IN THIS SPHERE, IT WOULD DECLINE TO EXERCISE THAT AUTHORITY AT THE PRESENT TIME

Even assuming that EPA possesses the statutory authority to regulate greenhouse gas emissions from new motor vehicles to address global climate change, the agency reasonably exercised its discretion in declining to do so at this time. EPA identified a variety of sound and appropriate reasons—including the complex and highly uncertain nature of the scientific record, the agency's desire to have the benefit of ongoing research, and the inadvisability of piecemeal regulation to address an issue of global magnitude at a time when the President and Congress are seeking to develop a comprehensive approach—in support of that conclusion. See Pet. App. A80-A92. Petitioners acknowledge (Br. 10, 41) that the "scientific uncertainty" surrounding global climate change is relevant to EPA's decision whether to regulate in this sphere. Petitioners nevertheless contend (Br. 35-48) that, if EPA is

authorized to regulate greenhouse gas emissions from new motor vehicles, Section 202(a)(1) of the CAA requires that the decision whether to exercise that authority must be based solely on scientific evidence concerning the likelihood of endangerment to the public health or welfare, and that EPA's consideration of additional factors was unlawful. For several reasons, that argument lacks merit.

A. Federal Agencies Have Broad Discretion To Decline To Initiate Rulemakings, Even When The Governing Law Would Authorize Regulation

Under established principles of administrative law, an Executive Branch agency generally "has considerable discretion in responding to requests to institute proceedings or to promulgate rules, *even though it possesses the authority to do so should it see fit.* Administrative rule making does not ordinarily comprehend any rights in private parties to compel an agency to institute such proceedings or promulgate rules." *Action for Children's Television* v. *FCC*, 564 F.2d 458, 479 (D.C. Cir. 1977) (emphasis added; internal quotation marks omitted). As the District of Columbia Circuit has explained:

> An agency's discretionary decision not to regulate a given activity is inevitably based, in large measure, on factors not inherently susceptible to judicial resolution—*e.g.*, internal management considerations as to budget and personnel; evaluations of its own competence; weighing of competing policies within a broad statutory framework. * * * Further, even if an agency considers a particular problem worthy of regulation, it may determine for reasons lying within its special expertise that the time for action has not yet arrived. * * * The area may be one of such rapid technological development that regulations would be outdated by the time they could become effective, or the scientific state of the art may be such that

> sufficient data are not yet available on which to premise adequate regulations.

NRDC v. *SEC*, 606 F.2d 1031, 1046 (D.C. Cir. 1979) (citations omitted). Those considerations are directly applicable here.

Precisely because a federal agency's decision not to commence a rulemaking may be based on discretionary considerations unrelated to the agency's legal authority to act, the District of Columbia Circuit has long recognized that a particularly deferential standard applies on judicial review of such a decision.[14] That court has described its role in reviewing denials of rulemaking petitions as "limited to ensuring that the agency has adequately explained the facts and policy concerns it relied on, and that the facts have some basis in the record." *National Ass'n of Regulatory Util. Comm'rs* v. *DOE*, 851 F.2d 1424, 1430 (D.C. Cir. 1988) (citation omitted). Thus, "[i]t is only in the rarest and most compelling of circumstances that th[e] court has acted to overturn an agency judgment not to institute rulemaking." *WWHT, Inc.* v. *FCC*, 656 F.2d 807, 818 (D.C. Cir. 1981).

This Court's decision in *Heckler* v. *Chaney*, 470 U.S. 821 (1985), reinforces the appropriateness of a deferential standard in this sphere. *Chaney* held that an agency's refusal to commence an enforcement proceeding is not ordinarily sub-

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[14] See, *e.g.*, *Midwest Indep. Transmission Sys. Operator, Inc.* v. *FERC*, 388 F.3d 903, 910-911 (D.C. Cir. 2004) ("[W]e will overturn an agency's decision not to initiate a rulemaking only for compelling cause.") (citation omitted); *National Mining Ass'n* v. *United States Dep't of the Interior*, 70 F.3d 1345, 1352 (D.C. Cir. 1995) ("[A]n agency's refusal to initiate a rulemaking is evaluated with deference so broad as to make the process akin to nonreviewability.") (citation omitted); *Timpinaro* v. *SEC*, 2 F.3d 453, 461 (D.C. Cir. 1993) (stating that such challenges will be upheld "only in the rarest and most compelling of circumstances") (citations omitted); *General Motors Corp.* v. *National Highway Traffic Safety Admin.*, 898 F.2d 165, 169 (D.C. Cir. 1990) (judicial review is "especially narrow" in such circumstances).

ject to judicial review *at all*. See *id.* at 828-835. The Court observed that "an agency decision not to enforce often involves a complicated balancing of a number of factors which are peculiarly within its expertise," including the agency's assessments concerning the manner in which its limited resources can most effectively be allocated. *Id.* at 831. The Court also noted that, "when an agency refuses to act it generally does not exercise its *coercive* power over an individual's liberty or property rights, and thus does not infringe upon areas that courts often are called upon to protect." *Id.* at 832. Those observations are equally applicable to an agency's decision not to commence a rulemaking. See *American Horse Protection Ass'n* v. *Lyng*, 812 F.2d 1, 3-4 (D.C. Cir. 1987).[15]

This Court's decision in *Motor Vehicle Manufacturers Ass'n* v. *State Farm Mutual Automobile Insurance Co.*, 463 U.S. 29 (1983), reinforces the conclusion that an agency's refusal to initiate rulemaking must be reviewed under a particularly deferential standard. The Court in *Motor Vehicle Manufacturers* specifically rejected the contention that "the rescission of an agency rule should be judged by the same standard a court would use to judge an agency's refusal to promulgate a rule in the first place." *Id.* at 41. The Court explained that "the revocation of an extant regulation is substantially different than a failure to act" because "[r]evocation

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[15] The Court in *Chaney* noted that the case did "not involve the question of agency discretion not to invoke rulemaking proceedings," 470 U.S. at 825 n.2, and the Court accordingly did not address that question. In *American Horse Protection Ass'n*, the District of Columbia Circuit determined that "*Chaney* * * * does not appear to overrule [the court of appeals'] prior decisions allowing review of agency refusals to institute rulemakings." 812 F.2d at 4. The court also explained, however, that "[r]eview under the 'arbitrary and capricious' tag line * * * encompasses a range of levels of deference to the agency, * * * and *Chaney* surely reinforces our frequent statements that an agency's refusal to institute rulemaking proceedings is at the high end of the range." *Id.* at 4-5 (citation omitted).

constitutes a reversal of the agency's former views as to the proper course." *Ibid.* The Court concluded that "an agency changing its course by rescinding a rule is obligated to supply a reasoned analysis for the change beyond that which may be required when an agency does not act in the first instance." *Id.* at 42. That statement logically implies that an agency's refusal to initiate rulemaking should be reviewed under a more deferential standard than would apply to an agency's alteration of its regulatory scheme.

B. Section 202(a)(1) Of The CAA Does Not Impose Any Timetable For Determining Whether Greenhouse Gas Emissions From New Motor Vehicles Would Meet The Statutory Endangerment Standard

Under background principles of administrative law, agencies are presumptively free to base decisions not to initiate rulemaking on a broad range of discretionary factors. See pp. 36-39, *supra*. In unusual circumstances, however, Congress sometimes limits that customary discretion by (for example) requiring an agency to determine within a particular time period whether specified conditions are satisfied, and to conduct a rulemaking if those conditions are met. In light of general principles of administrative law and the Executive's general discretion under the Take Care Clause of the Constitution, see Art. II, § 3, cl. 4, such limitations should be construed narrowly. See pp. 39-45, *infra*. Petitioners contend (*e.g.*, Br. 35-36) that, under Section 202(a)(1) of the CAA (42 U.S.C. 7521(a)(1)), the *only* factor EPA could properly consider in determining whether to grant their petition for rulemaking was whether greenhouse gas emissions from new motor vehicles meet the statutory standard for endangerment of public health or welfare. That claim lacks merit.

1. Section 202(a)(1) provides in pertinent part:

> The Administrator *shall* by regulation prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which *in his judgment* cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.

42 U.S.C. 7521(a)(1) (emphasis added). The use of "shall" indicates that, *if* EPA "in [its] judgment" determines that particular pollutant emissions from new motor vehicles cause air pollution that "may reasonably be anticipated to endanger public health or welfare," the agency must "prescribe * * * standards."

Petitioners, however, do not contend that EPA has made a determination that the statutory endangerment standard is satisfied, thereby triggering a mandatory duty to issue standards, and yet has nevertheless declined to regulate.[16]

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[16] With respect to the source of EPA's purported obligation to prescribe standards in this area, the petition for rulemaking alleged that the agency had *previously* determined that the endangerment standard was satisfied. See J.A. 16, 18, 21, 35, 41. The principal theory of the rulemaking petition was that, "[h]aving already made formal findings that the emission of [greenhouse gases] from mobile sources poses actual or potential harmful effects [on] the public health or welfare, the Administrator must exercise her authority to regulate the emissions of [greenhouse gases] from new motor vehicles under § 202(a)(1)." J.A. 41 (footnote omitted). In denying the petition for rulemaking, however, EPA explained that none of the materials cited in that petition constituted a formal finding by the Administrator that greenhouse gas emissions satisfy the endangerment standard. Pet. App. A81. EPA further noted that, even "if the Administrator were to find that [greenhouse gases], in general, may reasonably be anticipated to endanger public health or welfare," it would not necessarily follow that greenhouse gas emissions *from motor vehicles* satisfy the endangerment standard set forth in Section 202(a)(1). See *ibid.* In this Court, petitioners do not press the contention that the Administra-

Rather, petitioners' argument (*e.g.*, Br. 38) is that the agency acted unlawfully by denying the rulemaking petition *without* deciding whether greenhouse gas emissions from new motor vehicles "may reasonably be anticipated to endanger public health or welfare." Nothing in Section 202(a)(1), however, requires EPA to make such a determination at any particular time. To the contrary, the provision emphasizes the Administrator's ability to exercise his "judgment," which presumably includes the judgment that this issue is not yet ripe for determination. Thus, absent a formal judgment by the Administrator that greenhouse gas emissions from new motor vehicles can be expected to cause endangerment, the agency retained its traditional flexibility to base its denial of the rulemaking petition on a broad range of discretionary factors.[17]

Adherence to the plain terms of Section 202(a)(1) produces a sensible result. Use of the word "shall" in Section 202(a)(1) reflects a congressional judgment that, once EPA has devoted the resources necessary to determine whether

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tor has *already* made the sort of formal endangerment finding that would trigger the duty to prescribe standards under Section 202(a)(1).

[17] While arguing that EPA was required to resolve the question of endangerment, petitioners do not specify when or how that duty to decide arose. Petitioners recite the statutory endangerment standard and construe Section 202(a)(1) to require "that the Administrator 'shall' regulate air pollutants satisfying this criterion." Pet. Br. 36. That formulation suggests that EPA is in breach of its statutory obligations whenever the agency has failed to prescribe standards for particular motor-vehicle pollutant emissions that *in fact* "may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. 7521(a)(1). In addition to imposing a duty of omniscience that no agency could satisfy, that construction of Section 202(a)(1) would render the phrase "in his judgment" superfluous. Alternatively, petitioners might contend that EPA's purported obligation to decide the endangerment question was triggered by the filing of ICTA's petition for rulemaking. But since nothing in the CAA provides for the filing of a rulemaking petition in these circumstances, it is difficult to see how ICTA's petition could narrow the regulatory options previously available to the agency.

particular emissions cause air pollution that may reasonably be anticipated to endanger the public health or welfare, and has concluded that the statutory endangerment standard is satisfied, the directive that EPA must prescribe standards is an acceptable constraint on the agency's usual rulemaking discretion. But requiring the agency to conduct the necessary inquiries and to determine *whether* the endangerment standard is satisfied with respect to a potentially unbounded range of pollutants, even when EPA has concluded for other reasons that regulation of particular emissions is unwarranted, would entail a much more severe intrusion on the agency's customary flexibility to set its own priorities. Absent a clear indication in the statutory text, this Court should not infer that Congress intended to mandate so sharp a departure from background principles of administrative law. And, because Section 202(a)(1) is at a minimum ambiguous on this issue, EPA's reasonable interpretation of the statutory language is entitled to deference under *Chevron*.

2. The statutory scheme as a whole reinforces the literal interpretation of Section 202(a)(1). Some provisions of the CAA specify deadlines by which EPA is to study analogous "endangerment" questions.[18] Others provide specific direction for presentation and consideration of petitions and other types of submissions to the agency.[19] And while the Act di-

[18] See, *e.g.*, 42 U.S.C. 7408(a)(1) (regarding initial list of criteria pollutants); 42 U.S.C. 7411(b)(1)(A) (regarding initial list of categories of stationary sources); 42 U.S.C. 7547(a), 7548 (regarding studies of nonroad engines and vehicle emissions and motor vehicle particulate matter emissions, respectively).

[19] See, *e.g.*, 42 U.S.C. 7407(d)(3) (process and timing for redesignation of air quality control regions), 7410(k) (process and timing for EPA review of state implementation plan submissions), 7411(g) (substantive and timing criteria for applications by States for revision of new source performance standards and EPA responses thereto), 7412(b)(3) and (4) (timing and other requirements relating to petitions to modify the CAA list of hazardous pollutants and agency responses thereto), 7585(b)(2) (six-month deadline to respond to any petition

rects EPA to review and (as may be appropriate) revise existing NAAQS at five-year intervals, 42 U.S.C. 7409(d)(1), Section 202(a)(1) simply directs EPA to revise mobile source emission standards "from time to time." 42 U.S.C. 7521(a)(1); cf. *American Lung Ass'n* v. *Reilly*, 962 F.2d 258, 263 (2d Cir. 1992) (contrasting statutorily-prescribed "indefinite intervals, such as 'from time to time,'" with "bright-line deadlines" such as "at five-year intervals"). The existence of other CAA provisions that establish specific deadlines or require the agency to respond to submissions from private parties highlights the absence of any similar requirement in Section 202(a)(1). See, *e.g.*, *Russello* v. *United States*, 464 U.S. 16, 23 (1983).

3. Consistent with the foregoing principles, the full District of Columbia Circuit explained 30 years ago that the "express provision for administrative discretion via the 'judgment' phrase [in Section 202(a)(1) of the CAA] is necessary" precisely because Section 202(a)(1) requires EPA to initiate rulemaking once it makes a determination of "endanger-[ment]" to health or welfare. *Ethyl Corp.* v. *EPA*, 541 F.2d 1, 20 n.37 (en banc), cert. denied, 426 U.S. 941 (1976). Other court of appeals decisions have recognized that EPA possesses broad discretion to decide whether and when to make analogous threshold regulatory determinations under similarly structured provisions of the CAA.[20] The District of Co-

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seeking a determination that criteria for revised standards for certain vehicles have been met), 7661d(b)(2) (process relating to petitions objecting to state CAA operating permits).

[20] See *New York Pub. Interest Research Group* v. *Whitman*, 321 F.3d 316, 330-331 (2d Cir. 2003) (EPA has discretion whether or not to make the threshold "determination" regarding deficiencies in state operating permit programs under Section 502(i) of the Act, 42 U.S.C. 7661a(i)); *Her Majesty the Queen in Right of Ont.* v. *United States EPA*, 912 F.2d 1525, 1533-1535 (D.C. Cir. 1990) (EPA has discretion to determine whether and when to make the threshold finding under Section 115(a) of the Act, 42 U.S.C. 7415(a), as to the existence of "reason to believe" that emissions from sources in the United

lumbia Circuit has held, in particular, that EPA may properly defer making an endangerment determination while it waits for additional scientific and technical studies to be completed. See *Her Majesty the Queen in Right of Ont.* v. *EPA*, 912 F.2d 1525, 1533-1534 (1990). EPA's construction of Section 202(a)(1) is thus consistent not only with generally applicable background principles of administrative law, but with appellate decisions applying those principles to the CAA.

4. As noted above (see notes 1 & 9, *supra*), EPA's determination that it lacks authority to regulate greenhouse gas emissions to address global climate change reflects a departure from the position taken by two prior EPA general counsels. EPA's discretionary decision not to exercise any authority it might possess, however, is fully consistent with previous agency pronouncements under prior Administrators. In 1999 and 2000, EPA informed Congress that, while it construed the CAA to authorize regulation of greenhouse gas emissions, it had no present intention of exercising that authority. See J.A. 80, 91, 101, 106, 108. The agency stated that "[t]he use of EPA's legal authorities involves adherence to specified legal and technical procedural steps, *as well as discretion as to when to initiate applying this additional authority*." J.A. 106 (emphasis added). The agency further explained that, "[a]s EPA has no current plans to propose regulations for [carbon dioxide], EPA has not evaluated the strength of the technical and legal basis for [endangerment] findings under any particular provision of the Act." J.A. 91. Those statements (which were made after ICTA's petition for rulemaking had been filed with the agency) unambiguously reflect EPA's

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States are endangering health or welfare in another country); *NRDC* v. *Thomas*, 885 F.2d 1067, 1073-1075 (2d Cir. 1989) (EPA has discretion in exercising its "judgment" as to whether emissions of hazardous air pollutants "may reasonably be anticipated" to result in certain types of illnesses under then-existing version of CAA Section 112(a)(1), 42 U.S.C. 7412(a)(1) (1988)).

consistent position that it is under no legal obligation to determine, on any particular timetable, whether greenhouse gas emissions satisfy the endangerment standard.

C. EPA's Denial Of The Rulemaking Petition In This Case Reflects A Reasonable Exercise Of Agency Discretion

Based on a variety of considerations, EPA concluded that, even if the CAA authorized it to regulate greenhouse gas emissions from new motor vehicles for the purpose of addressing global climate change, the agency would decline to exercise that authority at the present time. Petitioners' challenge to that discretionary decision is premised solely on their contention that Section 202(a)(1) of the CAA required the agency to determine, based on scientific evidence alone, whether such emissions may reasonably be anticipated to endanger public health or welfare. Because Section 202(a)(1) imposes no such requirement, EPA's denial of the rulemaking petition in this case should be sustained. Even assuming that EPA's balancing of the relevant discretionary factors was subject to judicial review at all, EPA's denial of the rulemaking petition was wholly rational and easily satisfies the deferential standard of review that courts have applied to agency refusals to undertake regulatory activity.[21]

1. It is undeniable that the "science of climate change is extraordinarily complex and still evolving." Pet. App. A83. As the court of appeals recognized, EPA properly relied upon an authoritative analysis by the National Research Council (NRC) as supporting the agency's view that any decision whether to regulate in this area would be better made after

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[21] Because EPA's exercise of discretion clearly satisfies such standard of review, this Court need not resolve the question left open in *Chaney* as to whether an agency's decision not to invoke rulemaking in such circumstances is subject to judicial review at all. *Chaney*, 470 U.S. at 825 n.2.

further research was conducted into critical areas of current scientific uncertainty. See *id.* at A11-A13, A83-A85. The NRC concluded that "[g]reenhouse gases are accumulating in Earth's atmosphere as a result of human activities, causing surface air temperatures and subsurface ocean temperatures to rise." J.A. 151. As EPA highlighted, however, the NRC further observed that "[t]he understanding of the relationships between weather/climate and human health is in its infancy and therefore the health consequences of climate change are poorly understood." Pet. App. A84.

Consistent with the NRC report, EPA explained:

> [P]redicting future climate change necessarily involves a complex web of economic and physical factors including: our ability to predict future global anthropogenic emissions of [greenhouse gases] and aerosols; the fate of these emissions once they enter the atmosphere (e.g., what percentage are absorbed by vegetation or taken up by the oceans); the impact of those emissions that remain in the atmosphere on the radiative properties of the atmosphere; changes in critically important climate feedbacks (e.g., changes in cloud cover and ocean circulation); changes in temperature characteristics (e.g., average temperatures, shifts in daytime and evening temperatures); changes in other climatic parameters (e.g., shifts in precipitation, storms); and ultimately the impact of such changes on human health and welfare (e.g., increases or decreases in agricultural productivity, human health impacts).

Pet. App. A83-A84.

EPA then identified five specific areas of ongoing research that would be necessary to reduce "the wide range of uncertainty inherent in current model predictions." Pet. App.

A84.[22] Those studies are ongoing and are expected to be completed in the next few years. EPA further explained that the President's comprehensive global climate change strategy is based on a wide variety of policy tools to address climate change through a "sustained effort, over many generations." *Id.* at A85. Those measures include tax incentives, public-private partnerships, and major technology research, development, and deployment initiatives that would reduce the economy's reliance on fossil fuels, supported by the President's 2003 budget request for $4.5 billion for programs related to global climate change. *Id.* at A88-A91. Because "establishing [greenhouse gas] emission standards for U.S. motor vehicles at this time would require EPA to make scientific and technical judgments without the benefit of the studies being developed to reduce uncertainties and advance technologies," *id.* at A85, the agency reasonably concluded that, "[u]ntil more is understood about the causes, extent and significance of climate change and the potential options for addressing it, * * * it is inappropriate to regulate [greenhouse gas] emissions from motor vehicles," *id.* at A86.[23]

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[22] Those areas of research were (1) "[t]he future global use of fossil fuels and future global emissions of methane"; (2) "[t]he fraction of fossil fuel carbon that will remain in the atmosphere and contribute to radiative forcing versus exchange with the oceans or with the land biosphere"; (3) "[t]he impacts (either positive or negative) of climate change on regional and local systems"; (4) "[t]he nature and causes of natural variability of climate and its interactions with human-induced changes"; and (5) "[t]he direct and indirect effects of the changing distribution of aerosols." Pet. App. A84.

[23] As petitioners correctly explain (Br. 41-42), EPA's broad discretion under Section 202 of the CAA includes the authority to regulate notwithstanding the existence of some scientific uncertainty as to the likely effects of particular categories of emissions. See *Ethyl*, 541 F.2d at 27-28. The fact that EPA *may* regulate in the face of uncertainty, however, does not preclude the agency from deferring regulation pending the acquisition of additional information.

2. EPA also properly took account of other legal and policy implications of any decision to undertake the requested regulatory action. See Pet. App. A13-A14. EPA explained that initiation of the proposed rulemaking would

> result in an inefficient, piecemeal approach to addressing the climate change issue. The U.S. motor vehicle fleet is one of many sources of [greenhouse gas] emissions both here and abroad, and different [greenhouse gas] emission sources face different technological challenges in reducing emissions. A sensible regulatory scheme would require that all significant sources and sinks of [greenhouse gas] emissions be considered in deciding how best to achieve any needed emission reductions.

Id. at A85-A86. The agency also properly considered the present dearth of practical mechanisms to address greenhouse gas emissions from motor vehicles, particularly given DOT's statutory responsibility for establishing fuel-economy standards. Pet. App. A86-A87; see *Her Majesty the Queen*, 912 F.2d at 1533-1534 (recognizing that consideration of available "remedial procedures" is appropriate in deciding whether to make an endangerment finding under Section 115 of the Act, 42 U.S.C. 7415).

3. EPA also expressed reservations about the foreign policy implications of any unilateral attempt to set domestic greenhouse gas emission standards at this time.[24] The agency

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[24] Petitioners and their amici suggest that it was inappropriate for EPA to consider the potential international implications of regulating greenhouse gases. But EPA has direct familiarity with the Executive's foreign policy on global climate change. In addition, EPA is periodically involved in discussions with the Department of State on this issue, and the two agencies have entered into multilateral and bilateral agreements with other countries on matters relating to global climate change. See<http://www.epa.gov/climatechange/policy/internationalcooperation.html> (visited Oct. 24, 2006). Moreover, Congress has specifically recognized EPA's familiarity with such

observed that unilateral regulation could "weaken U.S. efforts to persuade key developing countries to reduce the [greenhouse gas] intensity of their economies," and that "[a]ny potential benefit of EPA regulation could be lost to the extent other nations decided to let their emissions significantly increase in view of U.S. emission reductions." Pet. App. A86. Those concerns were premised in part on EPA's experience with efforts to control the phenomenon of stratospheric ozone depletion. See *id.* at A86 n.5; note 7, *supra*. Particularly given the complexity and global nature of the climate change issue, it would be inappropriate for a court to set aside the Executive Branch's judgment as to the likely effects of domestic regulation on its active efforts to encourage the reduction of greenhouse gas emissions in foreign countries—where the vast majority of worldwide greenhouse gas emissions are produced.

4. Finally, the considerations that led EPA to conclude that it lacks regulatory authority in this sphere further support the reasonableness of the agency's decision not to exercise any such power that it might possess. The agency explained that key CAA regulatory mechanisms are ill-suited to greenhouse gas emissions (see pp. 23-25, *supra*); that current congressional policy favors further study and assimilation of data as a predicate for future legislation or international agreements (see pp. 26-31, *supra*); and that the economic and political significance of greenhouse gas regulation counsels hesitation in the absence of clear congressional guidance (see pp. 31-32, *supra*). Even if EPA is found to possess authority

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international efforts. In the Global Climate Protection Act of 1987, for instance, Congress directed EPA to submit, "jointly" with the Secretary of State, an "assessment of United States efforts to gain international cooperation in limiting global climate change," and "a description of the strategy by which the United States intends to seek further international cooperation to limit global climate change." § 1104(2) and (3), 101 Stat. 1409 (15 U.S.C. 2901 note).

under current law to regulate greenhouse gas emissions for the purpose of addressing global climate change, those factors would be directly relevant to the agency's discretionary decision whether to exercise such authority. Considering those factors and the others discussed above, there is no basis for the Court to override EPA's judgment and require the agency to undertake regulation in this context.

In sum, this Court need not question the "seriousness" (*Brown & Williamson*, 529 U.S. at 161) of the complex issues surrounding global climate change. But, applying settled principles of administrative law, the Court should defer to the expert agency's judgment that now is not the time to embark on the regulatory path that petitioners desire.

CONCLUSION

The case should be remanded to the court of appeals with instructions to dismiss the petitions for review for lack of jurisdiction. In the alternative, the judgment of the court of appeals should be affirmed.

Respectfully submitted.

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In the Supreme Court of the United States

COMMONWEALTH OF MASSACHUSETTS, *et al.*

Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, *et al.*

Respondents.

On Writ of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

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QUESTION PRESENTED

Does the United States Environmental Protection Agency ("EPA") lack the authority under the Clean Air Act to regulate the emission of carbon dioxide and other greenhouse gases to address global climate change?

PARTIES TO THE PROCEEDING

Petitioners, who were petitioners in the United States Court of Appeals for the District of Columbia Circuit, are the Commonwealth of Massachusetts, the States of California, Connecticut, Illinois, Maine, New Jersey, New Mexico, New York, Oregon, Rhode Island, Vermont, and Washington, the District of Columbia, American Samoa Government, New York City, Mayor and City Council of Baltimore, Center for Biological Diversity, Center for Food Safety, Conservation Law Foundation, Environmental Advocates, Environmental Defense, Friends of the Earth, Greenpeace, International Center for Technology Assessment, National Environmental Trust, Natural Resources Defense Council, Sierra Club, Union of Concerned Scientists, and U.S. Public Interest Research Group.

Respondents are EPA (the respondent below); the Alliance of Automobile Manufacturers; National Automobile Dealers Association; Engine Manufacturers Association; Truck Manufacturers Association; CO_2 Litigation Group; Utility Air Regulatory Group; the State of Idaho; and the States of Michigan, North Dakota, Utah, South Dakota, Alaska, Kansas, Nebraska, Texas, and Ohio. The Respondent States other than Idaho are referred to herein as the "State Respondents." The State of Idaho has elected not to join in this Brief. All of the Respondents other than EPA were intervenors below.

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EPA, EPA's Efforts to Reduce Lead, available at http://www.epa.gov/air/urbanair/lead/effrt.html 17

EPA, Nonattainment Areas for Lead, available at http://www.epa.gov/oar/oaqps/greenbk/lindcx.html..... 17

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The decision of the Court of Appeals is reported at 415 F.3d 50 (D.C. Cir. 2005) and is reproduced in the Petitioners' Appendix (Pet. App. A1-A58). The Court of Appeals' order denying Petitioners' petition for rehearing *en banc* is reported at 433 F.3d 66 (D.C. Cir. 2005) and is reproduced in the Petitioners' Appendix (Pet. App. A94-A95).

JURISDICTION

The judgment of the Court of Appeals was entered on August 15, 2005. The Court of Appeals' order denying the petition for rehearing *en banc* was entered on December 2, 2005. The petition for a writ of certiorari was filed on March 2, 2006, and was granted on June 26, 2006. The jurisdiction of this Court rests on 28 U.S.C. § 1254(1).

STATUTORY PROVISIONS INVOLVED

The statutory provisions involved in the case are Sections 109(a) and (b), 110(a), and 202(a)(1) of the Act.[1] The pertinent statutory text is set forth in the State Respondents' Appendix (State Resp. App. 1b-12b).

STATEMENT

Petitioners challenge EPA's denial of a petition for rulemaking that sought the regulation of carbon dioxide ("CO_2") and other greenhouse gas emissions from new motor vehicles and engines under Section 202(a)(1) of the Clean Air Act ("CAA" or "Act"), 42 U.S.C. § 7521(a)(1).

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[1] 42 U.S.C. §§ 7409(a) and (b), 7410(a), 7521(a)(1).

EPA's denial of the petition was based on the agency's position that the CAA "does not authorize EPA to regulate for global climate change purposes[.]"[2] EPA therefore determined that CO_2 and other greenhouse gases cannot be considered "air pollutants" subject to the CAA's regulatory provisions for any contribution they may make to global climate change.[3] EPA also concluded that even if it did have such authority, it would not exercise it at this time because of uncertainties about the causes and effects of climate change and additional policy considerations.[4]

The U.S. Court of Appeals for the District of Columbia Circuit affirmed EPA's denial of the petition for rulemaking.

1. Statutory Framework

The Act, 42 U.S.C. §§ 7401-7671q, provides for the control of air pollutants from stationary and mobile sources within the United States to protect public health and welfare. The purpose of the Act is to successfully achieve air pollution goals that will protect public health and welfare by reducing U.S. emissions. The Act does not, however, authorize EPA to set emission standards that will not meaningfully address an air quality issue like global climate change, which is caused primarily by CO_2 and other greenhouse gas emissions from outside of the United States.[5]

The "centerpiece" of the Act is the requirement in Title I that EPA establish national ambient air quality standards

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[2] 68 Fed. Reg. 52,922, 52,925 (Sept. 8, 2003).

[3] *Id.*

[4] *Id.*, at 52,929-33.

[5] *See* Declaration of Michael McCracken, ¶ 31 (Joint App. 238); *see also* Energy Information Administration, Table on World Carbon Dioxide Emissions from the Consumption and Flaring of Fossil Fuels, 1980-present at 4, 20 (identifying U.S. and world-wide CO_2 emissions in 2004), available at http://www.eia.doe.gov/pub/international/iealf/tableh1co2.xls.

("NAAQS").[6] The NAAQS "'define [the] levels of air quality that must be achieved to protect public health and welfare.'"[7] States have the primary responsibility for air pollution prevention and control, and they fulfill that responsibility by establishing emission limits for sources within their borders.[8] The States achieve the NAAQS mainly by regulating stationary sources, such as factories and power plants, through implementation plans that they submit to EPA for approval.[9]

The Act, however, does not contain any provision for States to reduce air pollution from sources outside of the United States. Therefore, if international sources of air pollution are contributing to a State's inability to meet a NAAQS, it would be impossible for that State to meet the national standard because of the lack of authority to limit such emissions.

EPA's setting of the NAAQS is "the engine that drives nearly all of Title I of the CAA."[10] For example, Title I contains detailed preconstruction requirements to allow for economic growth while assuring that air quality in areas that have attained the national standards does not degrade and that 'nonattainment' areas continue to improve. Under the prevention of significant deterioration provisions ("PSD"), no major air polluting facility may be constructed unless it can meet an emission limit that reflects the best available control

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[6] *Sierra Club v. Costle*, 657 F.2d 298, 315 (D.C. Cir. 1980).

[7] *Alaska Dep't of Envt'l Conservation v. EPA*, 540 U.S. 461, 469 (2004) (quoting R. Belden, Clean Air Act 6 (2001)). EPA has established NAAQS for six air pollutants: particulate matter, sulfur dioxide, carbon monoxide, nitrogen dioxide, ozone and lead. 40 C.F.R. §§ 50.4-12 (2004). In addition, oxides of nitrogen and volatile organic compounds combine in the presence of sunlight to form ozone, and they are regulated as precursors of ozone. *See e.g.*, 42 U.S.C. § 7511a(b)(requiring reductions in emissions of volatile organic compounds and oxides of nitrogen to attain the NAAQS for ozone).

[8] 42 U.S.C. § 7401(a)(3).

[9] *Engine Mfrs. Ass'n v. EPA*, 88 F.3d 1075, 1078-79 (D.C. Cir. 1996).

[10] *Whitman v. American Trucking Ass'n, Inc.*, 531 U.S. 457, 468 (2001).

technology.[11] New sources in nonattainment areas must, under the provisions known as "Nonattainment New Source Review," obtain offsetting emission reductions and meet the "lowest achievable emission rate" through the use of the most protective pollution controls.[12] Each State's implementation plan to achieve the NAAQS is required to include permit provisions to administer both the PSD and Nonattainment New Source Review requirements.[13]

Section 111 helps States achieve the NAAQS through EPA's promulgation of "new source performance standards" ("NSPS") for industry categories. The NSPS are national, technology-based standards that establish a minimum level of emission limitations regardless of whether a source is located in an attainment or a nonattainment area.

Meeting the NAAQS is mandatory, and Title I requires that the implementation plans adopted by the States achieve them by specific dates.[14] Failure to achieve a NAAQS by those dates triggers sanctions under the Act that include the loss of federal highway funding.[15]

Other provisions in Title I similarly reflect that the Act is designed to prevent air pollution that endangers public health and the environment by reducing emissions from U.S. sources. Section 112 establishes a two-phase approach to limit the emission of hazardous air pollutants ("HAPs") for which EPA has not established a NAAQS.[16] The first phase is a

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[11] 42 U.S.C. § 7475(a); *Alaska Dep't of Envt'l Conservation v. EPA*, 540 U.S. at 470-73.

[12] 42 U.S.C. § 7503(a).

[13] 42 U.S.C. §§ 7471, 7512a. The PSD and Nonattainment New Source Review requirements are collectively referred to as "New Source Review." *New York v. EPA*, 413 F.3d 3, 12-13 (D.C. Cir. 2005).

[14] 42 U.S.C. § 7502(a)(2).

[15] 42 U.S.C. § 7509(b).

[16] 42 U.S.C. §§ 7412(d), (f).

technology-based program that requires the use of "maximum achievable control technology" ("MACT") for categories and subcategories of sources that emit HAPs.[17] In the second phase – which occurs within eight years after the MACT standards are promulgated – EPA is required to evaluate whether "residual risks" remain after implementation of the MACT standards that warrant more stringent requirements in order "to provide an ample margin of safety to protect public health . . . or to prevent . . . an adverse environmental effect."[18] The residual risk provisions illustrate a core premise underlying the NAAQS provisions and the Act in general: emissions reductions from U.S. sources are intended to achieve the goal of protecting public health and the environment.

Title II authorizes EPA to establish emission standards for mobile sources and complements the States' efforts to achieve the NAAQS pursuant to Title I. For example, Section 202 establishes motor vehicle emission standards for carbon monoxide and particulate matter (for which EPA has promulgated NAAQS), as well as hydrocarbons and nitrogen oxides (which are precursors of ozone, for which EPA has also promulgated a NAAQS).[19] The oxygenated fuels provision in Section 211(m) requires that gasoline sold in the winter months contain a minimum of 2.7 percent oxygen in areas that have not attained the NAAQS for carbon monoxide.[20] Section 246 requires clean-fuel vehicle programs for motor vehicle fleets in ozone and carbon monoxide nonattainment areas with populations of 250,000 or more.[21]

Again, the common theme running through all of these Title I and Title II provisions is that they are designed to

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[17] 42 U.S.C. § 7412(d). The MACT standards are based on the emission limitation achieved by the best performing sources in a category. *Id.*

[18] 42 U.S.C. § 7412(f)(2)(A).

[19] 42 U.S.C. § 7521(g).

[20] 42 U.S.C. § 7545(m).

[21] 42 U.S.C. § 7586.

successfully prevent and control air pollution by reducing emissions from sources (both stationary and mobile) in the United States. Nothing in the Act suggests that it is intended to require controls that cannot effectively address air quality problems in the United States that are caused primarily by emissions from sources outside of the country.

2. Proceedings before EPA

On October 20, 1999, Petitioner International Center for Technology Assessment and 18 other organizations filed a petition for rulemaking (the "ICTA Petition") asking EPA to regulate certain greenhouse gas emission for new motor vehicles and engines under Section 202(a)(1) of the CAA, 42 U.S.C. § 7521(a)(1). In particular, the petition sought the regulation of CO_2, methane, nitrous oxide and hydroflourocarbon emissions from new motor vehicles and engines. According to Petitioners, emissions from the entire U.S. transportation sector (not just new motor vehicles and engines) account for approximately 7% of global fossil fuel emissions.[22]

Section 202(a)(1) of the Act states that the EPA Administrator shall prescribe standards for emissions of air pollutants from new motor vehicles and engines that "in his judgment cause, or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare."[23] Petitioners claim that CO_2 and other greenhouse gases are air pollutants that contribute significantly to global climate change.[24]

On September 8, 2003, EPA denied the ICTA Petition. EPA concluded that the CAA "does not authorize EPA to regulate for global climate change purposes[.]"[25] The agency

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[22] Declaration of Michael McCracken, ¶ 31 (Joint App. 238).

[23] 42 U.S.C. § 7521(a)(1).

[24] 68 Fed. Reg. 52,922, 52,923 (Sept. 8, 2003).

[25] *Id.*, at 52,925.

therefore determined that CO_2 and other greenhouse gases cannot be considered "air pollutants" subject to the Act's regulatory provisions for any contribution they may make to global climate change.[26]

In reaching its conclusion, EPA analyzed the text and history of the CAA as well as other congressional actions specifically addressing global climate change. Among other things, EPA emphasized that "the NAAQS system – a key CAA regulatory mechanism – . . . is fundamentally inadequate when it comes to a substance like CO_2, which is emitted globally and has relatively homogenous concentrations around the world."[27] EPA explained that "any CO_2 standard that might be established would in effect be a worldwide ambient air quality standard, not a national standard – the entire world would be either in compliance or out of compliance." This situation "is inconsistent with a basic underlying premise of the CAA regime for implementation of a NAAQS – that actions taken by individual States and by EPA can generally bring all areas of the U.S. into attainment of a NAAQS."[28] The inadequacy of one of the Act's central regulatory provisions (the NAAQS system) to address global climate change reinforced EPA's conclusion that the CAA as a whole, including Section 202, does not authorize the agency to regulate for global climate change purposes.

3. Proceedings before the U.S. Court of Appeals for the District of Columbia Circuit

The Court of Appeals dismissed the petitions for review. It did not, however, address the question of whether EPA has the authority under the Act to regulate greenhouse gas emissions to address global climate change. Instead, Judge Randolph, who authored the lead opinion, assumed *arguendo* that EPA had such authority. *Massachusetts v. EPA*, 415 F.3d 50, 56 (D.C.

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[26] *Id.*, at 52,925, 52,928.

[27] *Id.*, at 52,927.

[28] *Id.*

Cir. 2005)(Pet. App. A1-A58). He determined that the agency correctly exercised its discretion in concluding that regulation of greenhouse gas emissions from motor vehicles was not warranted. According to Judge Randolph, the agency's judgment was properly based on, among other things, the "scientific uncertainty about the causal effects of greenhouse gases on the future climate of the earth" and policy considerations that supported EPA's judgment not to regulate. *Id.*, at 58.

Judge Sentelle concurred in the judgment dismissing the petitions for review. He concluded that Petitioners lacked standing because their "claimed injury is common to all members of the public" and is "the sort of general harm" that is insufficient to present a justiciable controversy under Article III of the Constitution. *Id.*, at 60. Judge Sentelle did not address the questions of whether EPA has the authority to regulate greenhouse gas emissions or whether EPA properly exercised its discretion in deciding not to regulate.

Judge Tatel dissented. He concluded that at least one Petitioner had standing, that EPA had the authority to regulate greenhouse gas emissions under Section 202 of the Act, and that EPA had not adequately explained its refusal to regulate. *Id.*, at 67, 73, 81.

The panel denied a petition for hearing. On December 2, 2005, the Court of Appeals denied a petition for rehearing *en banc*. (Pet. App. A94-A95).

SUMMARY OF ARGUMENT

The CAA is designed to successfully achieve air quality goals by limiting emissions from sources within the United States. This overarching theme runs through the entire Act. It is reflected in the NAAQS and other programs contained in Title I, in the mobile source provisions of Title II, in the acid rain program of Title IV, and in the stratospheric ozone depletion requirements of Title VI. The Act does not authorize

the reduction of emissions from U.S. sources that will not meaningfully address an international air quality issue like global climate change that is caused primarily by emissions from sources located outside of the United States. Nor is the intent of the Act to expend substantial resources on an air quality issue that is beyond the control of the United States and where such efforts will not effectively protect public health and welfare. Instead, the Act is designed to actually achieve air quality goals that will effectively protect public health and welfare through U.S. emission reductions.

The statutory provision at issue here cannot – as Petitioners claim – be interpreted in isolation, apart from the overall statutory scheme. When Section 202(a)(1) is understood in the context of the entire Act, its meaning is clear: Section 202 authorizes the EPA Administrator to set standards for the emission of air pollutants from new motor vehicles that "in his judgment cause, or contribute to, air pollution that may reasonably be anticipated to endanger public health or welfare,"[29] where U.S. emission reductions will measurably and meaningfully address such air pollution. Section 202 does not, however, allow EPA to set emission standards that would be an exercise in futility where the sources primarily generating the air pollution are outside the United States and where emission reductions from within the United States will have no meaningful effect on protecting public health and welfare.

ARGUMENT

Petitioners would have this Court ignore the basic principle of statutory construction that a statute is to be read as a whole. Petitioners' analysis of Section 202(a)(1) occurs in isolation, divorced from the rest of the Act. In fact, Petitioners would have this Court ignore the core provisions of the Act that contradict their proposed interpretation. Petitioners' use of tunnel vision prevents an accurate interpretation of Section

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[29] 42 U.S.C. § 7521(a)(1).

202(a)(1); it must be understood in the context of the entire Act.

This case presents a straightforward question of statutory interpretation: Does the CAA provide EPA with the authority to regulate the emission of carbon dioxide and other greenhouse gases to address global climate change? The CAA, when viewed in its entirety, clearly does not authorize such regulation.

The specific statutory provision at issue in this case, Section 202(a)(1), directs that the EPA Administrator "shall by regulation prescribe . . . standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare."[30] Petitioners assert that EPA's authority to regulate greenhouse gas emissions for purposes of global climate change is apparent from the plain language of Section 202(a)(1). Moreover, they emphasize that the Court should not review the Act's central provisions to understand the meaning of Section 202(a)(1) and that any analysis of the NAAQS provisions in Title I is "to utter a *non sequitor*."[31] But what Petitioners' characterize as a "debater's trick,"[32] this Court has described as a "cardinal rule" of statutory interpretation: "a statute is to be read as a whole, since the meaning of statutory language, plain or not, depends on context."[33] Similarly, this Court has explained that in analyzing a statutory provision, "we must not be guided by a single sentence or member of a sentence, but look to the provisions of the whole law, and to its object and policy."[34]

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[30] *Id.*

[31] Petitioners' Brief, at 9.

[32] *Id.*, at 28.

[33] *King v. St. Vincent's Hospital*, 502 U.S. 215, 221 (1991)(emphasis added)(citations omitted).

[34] *Kelley v. Robinson*, 479 U.S. 36, 43 (1986).

When read in the context of the entire Act, it is clear that Section 202(a)(1) authorizes EPA to prescribe standards for the emission of air pollutants from new motor vehicles that cause, or contribute to, air pollution that endangers public health and the environment and that is caused primarily by emissions from sources within the United States. As discussed below, the statutory provisions in Titles I, II, IV and VI all reflect and reinforce a fundamental theme of the Act: to successfully achieve air quality goals that will effectively protect public health and welfare by reducing emissions from sources of air pollution in the United States.[35]

A. Title I illustrates the Act's overall design and purpose

The statutory provisions in Title I demonstrate that the Act is designed to achieve air quality goals by limiting emissions from U.S. sources. The "engine that drives nearly all of Title I" is the provision for setting the NAAQS.[36] Section 109(b) directs that EPA promulgate the NAAQS to protect public health and welfare.[37] The States are then required to implement and attain the NAAQS by "deciding what emission reductions will be required from which sources."[38]

More specifically, Section 110 gives States the duty of developing, subject to EPA approval, implementation plans to

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[35] The Act's general provisions in Title III, 42 U.S.C. §§ 7601-27, and the operating permit program in Title V, 42 U.S.C. §§ 7661-7661f, do not, by themselves, limit emissions and are not discussed herein. *See e.g., Sierra Club v. Georgia Power Co.*, 443 F.3d 1346, 1348 (11th Cir. 2006)("The Title V operating permit program generally does not impose new substantive air quality control requirements.").

[36] *Whitman v. American Trucking Ass'n, Inc.*, 531 U.S. 457, 468 (2001).

[37] 42 U.S.C. § 7409(b).

[38] *Whitman v. American Trucking Ass'n, Inc.*, 531 U.S. at 470. *See also* 42 U.S.C. §§ 7407(a), 7410 (giving States the duty of developing implementation plans).

achieve the NAAQS.[39] States determine and enforce the "specific, source-by-source emission limitations which are necessary if the national standards [EPA] has set are to be met. . . . *[S]o long as the ultimate effect of a States' choice of emission limitations is compliance with the national standards for ambient air,*" each State is free to select the "mix of emission limitations it deems best suited to its particular situation."[40]

The PSD and Nonattainment New Source Review programs in Title I help the States control emissions from new and modified sources. Both require new major sources of air pollutants to meet emission limits that reflect the state-of-the-art in air pollution control. New major sources in attainment and nonattainment areas are required to go through a detailed pre-construction permitting process and must meet emission standards based on the best available control technology and the lowest achievable emission rate, respectively.[41] New major sources in nonattainment areas must also obtain offsetting emission reductions from existing sources in the same area so that air quality can continue to improve and eventually achieve the NAAQS.[42]

The NSPS provisions in Section 111 also help the States meet the NAAQS. These provisions establish a minimum floor of emission limits for categories of industry sources and ensure that States with relatively clean air do not gain a competitive economic advantage to attract industry by setting less stringent emission limits.[43] The "purpose of the NSPS" is "part of the overall effort to advance the accomplishment of the

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[39] 42 U.S.C. § 7410.

[40] *Train v. Natural Resources Defense Council*, 421 U.S. 60, 79 (1975)(emphasis added).

[41] 42 U.S.C. §§ 7475(a), 7503(a).

[42] 42 U.S.C. § 7503(a)(c).

[43] *Sierra Club v. Costle*, 657 F.2d 298, 315 (D.C. Cir. 1980).

NAAQS."[44] Indeed, many of the NSPS include requirements for those air pollutants for which EPA has promulgated a NAAQS.[45]

The Act also contains powerful incentives to ensure the States achieve the NAAQS. Eighteen months after EPA determines that a State has failed to implement an approved part of its implementation plan, the agency is required to impose one of two types of sanctions if the deficiency has not been corrected.[46] Sanctions include a loss of highway funding or a requirement that emission offsets for new sources in nonattainment areas shall be at least two to one. If the State fails to correct the deficiency within another six months, the emission offset sanction must be imposed.[47]

In addition to the NAAQS, Section 112's requirements to limit hazardous air pollutants further reinforce the overall statutory scheme. Under Section 112, EPA is directed to evaluate the remaining risk to public health and the environment within eight years after promulgating the technology-based MACT standards for major sources of hazardous air pollutants.[48] EPA is then required to establish and implement "residual risk" control standards to provide an ample margin of safety to protect public health or, if a more stringent standard is needed, to prevent an adverse

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[44] 1 Frank P. Grad, Treatise on Environmental Law § 2.03[14], at 2-356 (2005).

[45] *See e.g.*, Standards of Performance for Incinerators, 60 C.F.R. §§ 60.50-54 (2004)(containing standards for particulate matter); Standards of Performance for Petroleum Refineries, 60 C.F.R. §§ 60.100–109 (2004)(containing standards for particulate matter and carbon monoxide); Standards of Performance for Stationary Gas Turbines, 60 C.F.R. §§ 60.330-335 (2004)(containing standards for nitrogen oxides and sulfur dioxide).

[46] 42 U.S.C. § 7509(a).

[47] 42 U.S.C. § 7509(b).

[48] 42 U.S.C. § 7412(f).

environmental effect.[49] Section 112 thus reflects the underlying approach of both Title I itself and the Act as a whole: emission reductions from sources within the United States will ultimately achieve the goals of protecting public health and the environment.

In this case, there is no dispute that global climate change is caused by emissions from around the world. The emission reductions from new motor vehicles that Petitioners seek, however, are only a small fraction of global greenhouse gas emissions.[50] As Petitioners themselves note, reductions from other countries are needed to avoid "the most serious impacts" of global climate change.[51] While global climate change may be "the most significant public heath and environmental threat" facing the nation and the world,[52] the issue in this case is whether the Act provides EPA the authority to address international air quality issues that – like global climate change – are beyond the control of the United States itself and cannot be resolved by emission reductions from motor vehicles within this country. Title I and the rest of the Act demonstrate that EPA has no such authority.

1. The International Border Areas provision in Section 179B is not applicable to the issue of global climate change

Title I contains a provision that acknowledges that, in some instances, attainment of the NAAQS may not be possible because of emissions from sources outside the country. Section 179B, entitled "International Border Areas," provides that a State's implementation plan may be approved if the State "establishes to the satisfaction of EPA" that the State would attain the NAAQS "but for emissions emanating from outside

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[49] *Id.*

[50] Declaration of Michael McCracken, ¶ 31 (Joint App. 238).

[51] *Id.*, at ¶ 32.

[52] Amicus Brief of Former EPA Administrators, at 1.

of the United States."[53] The provision has been used, for example, in the context of a Southern California county attempting to excuse nonattainment with a NAAQS for particulate matter due to transborder emissions from Mexico.[54]

Section 179B is not, however, applicable to the issue of global climate change. As EPA explained in its denial of the ICTA Petition, carbon dioxide is "by far the most pervasive of anthropogenic [greenhouse gases]" and stays in the atmosphere for approximately 50 to 200 years.[55] "This long lifetime along with atmospheric dynamics means that CO_2 is well mixed throughout the atmosphere, up to approximately the lower stratosphere." As EPA also noted, the NAAQS system "is fundamentally inadequate when it comes to a substance like CO_2, which is emitted globally and has relatively homogenous concentrations around the world." Unlike the other pollutants for which a NAAQS has been established, a NAAQS for CO_2 "could not be attained by an area of the U.S. until such a standard were attained by the entire world as a result of emission controls implemented in countries around the world." Therefore, the agency emphasized that this situation "would be inconsistent with a basic underlying premise of the CAA regime for implementation of a NAAQS – that actions taken by individual States and by EPA can generally bring all areas of the U.S. into attainment of a NAAQS."[56]

In other words, the NAAQS provisions are aimed at ultimately achieving the national standards through domestic emission reductions. Congress could not have envisioned the implausible scenario of a NAAQS for carbon dioxide that no State could meet, and where every State would seek to excuse its nonattainment under Section 179B because of international

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[53] 42 U.S.C. § 7509a(a)(2).

[54] *See Sierra Club v. Imperial County Air Pollution Control Dist.*, 346 F.3d 955 (9th Cir. 2003).

[55] 68 Fed. Reg. 52,922, 52,927 (Sept. 8, 2003).

[56] *Id.*

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emissions.[57] To excuse the nonattainment with a NAAQS for CO_2 by every State under Section 179B would, in effect, allow the exception to swallow the rule. As EPA noted, "[t]he limited flexibility provided in the Act to address the impacts of foreign pollution transported to the U.S. was not designed to address the challenges presented by long-lived global atmospheric pools such as exists for CO_2."[58]

2. The absurd results canon does not support Petitioners' argument

Judge Tatel, in his dissenting opinion in the Court of Appeals, stated that even if the States' "limited ability" to meet a NAAQS for carbon dioxide "renders the NAAQS provisions unworkable as to CO_2, the absurd-results canon would justify at most an exception limited to the particular unworkable provision, *i.e.*, the NAAQS provision."[59] The absurd results canon provides that if a literal construction of a statute produces an absurd result, it should be interpreted to avoid the absurdity.[60]

Judge Tatel's argument, however, incorrectly characterizes the NAAQS system as a mere exception to the Act. In fact, the NAAQS system is, as this Court has stated, the "engine that drives nearly all of Title I."[61] Moreover, it ignores the basic principle of statutory interpretation that the Act is to be read as a whole. The design of Title I and the entire Act demonstrates

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[57] *See Food and Drug Admin. v. Brown and Williamson Tobacco Corp.*, 529 U.S. 120, 141 (2000)(rejecting statutory interpretation that would result in an implausible regulatory scheme).

[58] 68 Fed. Reg. at 52,927.

[59] *Massachusetts v. EPA*, 415 F.3d 50, 70 (D.C. Cir. 2005).

[60] *Holy Trinity Church v. United States*, 143 U.S. 457, 459-60 (1892). Any deviation from the literal reading of the statute should be no greater than is needed to protect congressional intent. *Mova Pharmaceutical Corp. v. Shalala*, 140 F.3d 1060, 1068 (D.C. Cir. 1998).

[61] *Whitman v. American Trucking Ass'n, Inc.*, 531 U.S. 457, 468 (2001).

that Congress did not intend Section 202 to be used to address an international air quality issue like global climate change.

B. Title II complements Title I by advancing the goal of achieving the NAAQS

Petitioners assert that the mobile source requirements in Title II are "entirely separate" from the NAAQS provisions in Title I, and that the Court therefore should not consider the overall statutory scheme when analyzing whether Section 202 authorizes regulation for purposes of global climate change.[62] In fact, Title II's requirements are essential to achieving the NAAQS. Far from being "entirely separate," Title II complements Title I.

That complementary relationship is illustrated by the success in achieving the NAAQS for lead through emission reductions from mobile sources. In 1973, EPA promulgated regulations phasing out the use of lead as a gasoline additive under the statutory provision in Title II now codified at 42 U.S.C. § 7545(c)(1).[63] As a result of EPA's regulatory efforts, the levels of lead in the air decreased 94 percent between 1980 and 1999.[64] Today, all but two counties in the United States have attained the NAAQS for lead.[65]

Title II's emissions standards for automobiles and trucks also play a critical role in achieving the NAAQS for carbon monoxide, particulate matter, nitrogen dioxide, and ozone. The largest source of U.S. carbon monoxide emissions are motor vehicles.[66] In many urban areas, emissions of hydrocarbons

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[62] Petitioners' Brief at 28.

[63] 38 Fed. Reg. 33,733 (Dec. 6, 1973).

[64] EPA, EPA's Efforts to Reduce Lead, available at http://www.epa.gov/air/urbanair/lead/effrt.html.

[65] EPA, Nonattainment Areas for Lead, available at http://www.epa.gov/oar/oaqps/greenbk/lindex.html.

[66] EPA, Automobiles and Carbon Monoxide, available at http://www.epa.gov/otaq/consumer/03-co.pdf.

and nitrogen oxides (the precursors of ozone) come primarily from motor vehicles and other mobile sources.[67] The standards established under Section 202(g) sharply reduce tailpipe emissions of carbon monoxide, particulate matter, oxides of nitrogen, and hydrocarbons, all of which assist in achieving attainment of the NAAQS.[68]

Other provisions in Title II further help States attain the national standards. Section 211(m) requires that gasoline sold during the winter months contain a minimum of 2.7 percent oxygen in areas that have not met the NAAQS for carbon monoxide.[69] Section 246 requires clean fuel vehicle programs for fleets of 10 or more motor vehicles owned and operated by a single person in ozone and carbon monoxide nonattainment areas with populations greater than 250,000.[70] Additionally, Section 202(j) imposes requirements for limiting carbon monoxide emissions in cold weather when emissions can be very high due to the reduced efficiency of both pollution control equipment and fuel combustion.[71]

Title I itself contains provisions that illustrate the connection between limiting emissions from mobile sources and attaining the NAAQS. For example, Section 182(b)(3) requires fuel-pump recovery systems (such as sheaths over pump nozzles) to prevent the evaporation of hydrocarbons during refueling.[72] States with nonattainment areas are required to implement vehicle inspection and maintenance programs that vary depending on the severity of the nonattainment status. In States with ozone or carbon monoxide nonattainment areas, the act requires motor vehicle inspection

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[67] EPA, Automobiles and Ozone, available at http://www.epa.gov/otaq/consumer/04-ozone.pdf.

[68] 42 U.S.C. § 7521(g).

[69] 42 U.S.C. § 7545(m).

[70] 42 U.S.C. § 7586.

[71] 42 U.S.C. § 7521(j).

[72] 42 U.S.C. § 7511a(b)(3).

and maintenance programs to identify malfunctioning vehicle emission controls and require that they be repaired as a prerequisite to vehicle registration.[73]

The transportation-related requirements in both Title II and Title I illustrate the fact that both portions of the Act are designed to work together. Although the focus of Title I is on stationary sources while Title II addresses mobile sources, the requirements in both Titles are complementary and reflect the overall purpose and design of the entire Act: to successfully achieve air quality goals that will effectively protect public health and welfare by reducing emissions from sources within the United States.

C. Title IV further illustrates the Act's purpose

The acid rain program, enacted as part of the Clean Air Act Amendments of 1990,[74] also reflects the fact that the Act is intended to achieve air quality goals through domestic, rather than international, emission reductions. The primary precursors of acid rain are sulfur dioxide and nitrogen oxides. The purpose of Title IV is to reduce the adverse effects of acid rain by reducing, from 1980 levels, annual sulfur dioxide emissions by 10 million tons and annual nitrogen oxide emissions by 2 million tons.[75]

Title IV prescribes limits for emissions of these air pollutants from specified electric utility plants in the contiguous 48 States.[76] The Act imposes a nation-wide cap of approximately 8.9 million tons of sulfur dioxide emissions per year on electric utilities, and they must reduce their emissions to meet the cap.[77] Utilities are allocated marketable emission

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[73] 42 U.S.C. §§ 7511a(c)(3), 7512(a)(6).

[74] Pub. L. No. 101-549, 104 Stat. 2399.

[75] 42 U.S.C. § 7651(b).

[76] 42 U.S.C. §§ 7651c, 7651d.

[77] 42 U.S.C. § 7651b(a)(1).

allowances.[78] Each allowance authorizes the emission of one ton of sulfur dioxide per year and may be bought, sold, traded or banked for future use or resale.[79]

Canada and the United States contribute to each other's acid rain problem. According to testimony by EPA before Congress in 1980, however, only 13 percent of the acid rain in New York and New Jersey is caused by pollution from Canada, while only 18 percent of the acid rain in the remaining northeastern United States is from air pollutants emitted from Canadian sources.[80] The acid rain program in Title IV, therefore, provides another example of a program that, like the provisions in Titles I and II, can actually solve an air quality problem because it is caused primarily by emissions from within the United States. By contrast, global climate change, which is caused mainly by emissions from outside the country and requires reducing emissions world-wide, is not the kind of air quality problem that the Act was intended to solve.[81]

D. Title VI shows how Congress explicitly tailored specific provisions in the Act to resolve international air quality problems

Title VI of the Act, which addresses stratospheric ozone depletion, demonstrates that Congress knows how to specifically craft statutory solutions to global air quality issues. As EPA noted in its denial of the ICTA Petition, the causes and effects of stratospheric ozone depletion are similar to global

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[78] 42 U.S.C. § 7651c.

[79] 42 U.S.C. §§ 7651a(3), 7651b(b).

[80] *Environmental Effects of the Increased Use of Coal; Hearings Before the Senate Subcomm. on Env't'l Pollution of the Senate Comm. on Env't and Pub. Works*, at 19 (March 19, 1980)(testimony of Douglas M. Costle, EPA Administrator).

[81] *See* Declaration of Michael McCracken ¶ 32 (Joint App. 239)(emission reductions from motor vehicles in the U.S. and other countries, along with limiting other emissions, make it "much more likely that the extent of climate change could ultimately be limited to levels that would avoid the most serious impacts of global warming.").

climate change: man-made substances "that deplete stratospheric ozone are emitted around the world and are very long-lived," and their effects "occur on a global scale."[82] To address this global problem, Title VI requires that the production and consumption of ozone-depleting substances be phased-out pursuant to a specific schedule.[83]

Title VI stands in stark contrast to the rest of the Act. It was enacted as part of the 1990 Clean Air Act Amendments to implement an international treaty signed by the United States and other governments in 1985 — the Vienna Convention for the Protection for the Ozone Layer — and, more precisely, the Montreal Protocol on Substances that Deplete the Ozone Layer that the signatories to the Vienna Convention adopted in 1987.[84] Unlike the other provisions of the Act, Title VI specifically requires U.S. emission reductions to address an international air quality issue caused by emissions from around the world. EPA should only endeavor to address the international air quality issue of greenhouse gas emissions and global climate change under the authority of a similar, specific provision, which Section 202 is not.

E. The structure and purpose of the entire Act – as reflected in Titles I, II, IV and VI – demonstrate that Section 202(a)(1) does not authorize regulation to address global climate change.

The portions of the CAA discussed previously highlight its central theme: to successfully achieve the air quality goal of effectively protecting public health and welfare by limiting emissions from sources within the United States. The provisions in Titles I, II, IV and VI all underscore and reinforce this fundamental premise of the entire Act.

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[82] 68 Fed. Reg. 52,922, 52,926 (Sept. 8, 2003).

[83] 42 U.S.C. §§ 7671c, § 7671d.

[84] 6 Frank P. Grad, Treatise on Environmental Law § 13.03[4][g][iii], [v]. at 13-149, 13-162 (2005).

The basic flaw in Petitioners' argument is that Petitioners fail to ascertain the meaning of Section 202(a)(1) in the context of the Act as a whole. Instead, they claim that this Court should put on its blinders and attempt to understand the meaning of that statutory provision in isolation. That approach is fundamentally wrong and must be rejected.

When the design of the overall statutory scheme is applied to this case, the meaning of Section 202(a)(1) is clear. It authorizes the EPA Administrator to set standards for the emission of air pollutants from new motor vehicles that "in his judgment cause, or contribute to, air pollution that may reasonably be anticipated to endanger public health or welfare,"[85] where U.S. emission reductions will meaningfully address such air pollution. It does not, however, authorize EPA to set standards that will not effectively address an air quality problem.

In this case, Petitioners acknowledge that the emission reductions they seek make up only a small percentage of global greenhouse gas emissions.[86] Moreover, Petitioners state that emission reductions "from vehicles in the U.S. and other countries" (which Petitioners speculate will occur), "would substantially and measurably mitigate the impacts of global warming."[87] They further state that limiting the extent of global climate change "to levels that would avoid the most serious impacts of global warming" is "much more likely to occur" if other countries reduce motor vehicle emissions, and, in addition, there is "progress in limiting other emissions."[88]

In other words, effectively addressing an international issue like global climate change requires world-wide reductions, not

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[85] 42 U.S.C. § 7521(a)(1).

[86] *See* Declaration of Michael McCracken, ¶ 31 (Joint App. 238).

[87] Declaration of Michael Walsh, ¶ 12 (Joint App. 245).

[88] Declaration of Michael McCracken, ¶ 31 (Joint App. 238).

simply reductions from U.S. sources alone. The Act, however, authorizes reductions from U.S. sources that will meaningfully and effectively protect public health and welfare. The Act does not, therefore, authorize regulation to address global climate change.

CONCLUSION

Section 202(a)(1) does not give EPA the authority to limit emissions from new motor vehicles and engines in the United States to address global climate change, which is caused by emissions from around the world. Instead, the Clean Air Act is designed to actually achieve air quality goals that will successfully protect public health and welfare by reducing the emission of air pollutants from sources within the United States.

The judgment of the Court of Appeals should be affirmed.

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STATE RESPONDENTS' APPENDIX

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42 U.S.C. § 7409. National primary and secondary ambient air quality standards

(a) Promulgation

(1) The Administrator—

(A) within 30 days after the date of enactment of the Clean Air Amendments of 1970 [enacted Dec. 31, 1970], shall publish proposed regulations prescribing a national primary ambient air quality standard and a national secondary ambient air quality standard for each air pollutant for which air quality criteria have been issued prior to such date of enactment; and

(B) after a reasonable time for interested persons to submit written comments thereon (but no later than 90 days after the initial publication of such proposed standards) shall be regulation promulgate such proposed national primary and secondary ambient air quality standards with such modifications as he deems appropriate.

(2) With respect to any air pollutant for which air quality criteria are issued after the date of enactment of the Clean Air Amendments of 1970 [enacted Dec. 31, 1970], the Administrator shall publish, simultaneously with the issuance of such criteria and information, proposed national primary and secondary ambient air quality standards for any such pollutant. The procedure provided for in paragraph (1)(B) of this subsection shall apply to the promulgation of such standards.

(b) Protection of public health and welfare

(1) National primary ambient air quality standards, prescribed under subsection (a) shall be ambient air quality standards the attainment and maintenance of which in the

judgment of the Administrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health. Such primary standards may be revised in the same manner as promulgated.

(2) Any national secondary ambient air quality standard prescribed under subsection (a) shall specify a level of air quality the attainment and maintenance of which in the judgment of the Administrator, based on such criteria, is requisite to protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air. Such secondary standards may be revised in the same manner as promulgated.

42 U.S.C. § 7410. State implementation plans for national primary and secondary ambient air quality standards

(a) Adoption of plan by State; submission to Administrator; content of plan; revision; new sources; indirect source review program; supplemental or intermittent control systems

(1) Each State shall, after reasonable notice and public hearings, adopt and submit to the Administrator, within 3 years (or such shorter period as the Administrator may prescribe) after the promulgation of a national primary ambient air quality standard (or any revision thereof) under section 109 [42 USCS § 7409] for any air pollutant, a plan which provides for implementation, maintenance, and enforcement of such primary standard in each air quality control region (or portion thereof) within such State. In addition, such State shall adopt and submit to the Administrator (either as a part of a plan submitted under the preceding sentence or separately) within 3 years (or such shorter period as the Administrator may prescribe) after the promulgation of a national ambient air quality secondary standard (or revision thereof), a plan which provides for implementation, maintenance, and enforcement of such secondary standard in each air quality control region (or portion thereof) within such State. Unless a separate public hearing is provided, each State shall consider its plan implementing such secondary standard at the hearing required by the first sentence of this paragraph.

(2) Each implementation plan submitted by a State under this Act shall be adopted by the State after reasonable notice and public hearing. Each such plan shall—

(A) include enforceable emission limitations and other control measures, means, or techniques (including economic incentives such as fees, marketable permits, and auctions of emissions rights), as well as schedules

and timetables for compliance, as may be necessary or appropriate to meet the applicable requirements of this Act;

(B) provide for establishment and operation of appropriate devices, methods, systems, and procedures necessary to—

(i) monitor, compile, and analyze data on ambient air quality, and

(ii) upon request, make such data available to the Administrator;

(C) include a program to provide for the enforcement of the measures described in subparagraph (A), and regulation of the modification and construction of any stationary source within the areas covered by the plan as necessary to assure that national ambient air quality standards are achieved, including a permit program as required in parts C and D [42 USCS §§ 8470 et seq., 7502 et seq.];

(D) contain adequate provisions—

(i) prohibiting, consistent with the provisions of this title, any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will—

(I) contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard, or

(II) interfere with measures required to be included in the applicable implementation plan for any other State under part C [42 USCS §§

7470 et seq.] to prevent significant deterioration of air quality or to protect visibility,

(ii) insuring compliance with the applicable requirements of sections 126 and 115 [42 USCS §§ 7426, 7415] (relating to interstate and international pollution abatement);

(E) provide (i) necessary assurances that the State (or, except where the Administrator deems inappropriate, the general purpose local government or governments, or a regional agency designated by the State or general purpose local governments for such purpose) will have adequate personnel, funding, and authority under State (and, as appropriate, local) law to carry out such implementation plan (and is not prohibited by any provision of Federal or State law from carrying out such implementation plan or portion thereof), (ii) requirements that the State comply with the requirements respecting State boards under section 128 [42 USCS § 7428], and (iii) necessary assurances that, where the State has relied on a local or regional government, agency, or instrumentality for the implementation of any plan provision, the State has responsibility for ensuring adequate implementation of such plan provision;

(F) require, as may be prescribed by the Administrator—

(i) the installation, maintenance, and replacement of equipment, and the implementation of other necessary steps, by owners or operators of stationary sources to monitor emissions from such sources,

(ii) periodic reports on the nature and amounts of emissions and emissions-related data from such sources, and

(iii) correlation of such reports by the State agency with any emission limitations or standards established pursuant to this Act, which reports shall be available at reasonable times for public inspection;

(G) provide for authority comparable to that in section 303 [42 USCS § 7603] and adequate contingency plans to implement such authority;

(H) provide for revision of such plan—

(i) from time to time as may be necessary to take account of revisions of such national primary or secondary ambient air quality standard or the availability of improved or more expeditious methods of attaining such standard, and

(ii) except as provided in paragraph (3)(C), whenever the Administrator finds on the basis of information available to the Administrator that the plan is substantially inadequate to attain the national ambient air quality standard which it implements or to otherwise comply with any additional requirements established under this Act;

(I) in the case of a plan or plan revision for an area designated as a nonattainment area, meet the applicable requirements of part D [42 USCS §§ 7502 et seq.] (relating to nonattainment areas);

(J) meet the applicable requirements of section 121 [42 USCS § 7421] (relating to consultation), section 127 [42 USCS § 7427] (relating to public notification),

and part C [42 USCS §§ 7470 et seq.] (relating to prevention of significant deterioration of air quality and visibility protection);

(K) provide for—

(i) the performance of such air quality modeling as the Administrator may prescribe for the purpose of predicting the effect on ambient air quality of any emissions of any air pollutant for which the Administrator has established a national ambient air quality standard, and

(ii) the submission, upon request, of data related to such air quality modeling to the Administrator;

(L) require the owner or operator of each major stationary source to pay to the permitting authority, as a condition of any permit required under this Act, a fee sufficient to cover—

(i) the reasonable costs of reviewing and acting upon any application for such a permit, and

(ii) if the owner or operator receives a permit for such source, the reasonable costs of implementing and enforcing the terms and conditions of any such permit (not including any court costs or other costs associated with any enforcement action), until such fee requirement is superseded with respect to such sources by the Administrator's approval of a fee program under title V [42 USCS §§ 7661 et seq]; and

(M) provide for consultation and participation by local political subdivisions affected by the plan.

(3) (A) [Repealed]

(B) As soon as practicable, the Administrator shall, consistent with the purposes of this Act and the Energy Supply and Environmental Coordination Act of 1974, review each State's applicable implementation plans and report to the State on whether such plans can be revised in relation to fuel burning stationary sources (or persons supplying fuel to such sources) without interfering with the attainment and maintenance of any national ambient air quality standard within the period permitted in this section. If the Administrator determines that any such plan can be revised, he shall notify the State that a plan revision may be submitted by the State. Any plan revision which is submitted by the State shall, after public notice and opportunity for public hearing, be approved by the Administrator if the revision relates only to fuel burning stationary sources (or persons supplying fuel to such sources), and the plan as revised complies with paragraph (2) of this subsection. The Administrator shall approve or disapprove any revision no later than three months after its submission.

(C) Neither the State, in the case of a plan (or portion thereof) approved under this subsection, nor the Administrator, in the case of a plan (or portion thereof) promulgated under subsection (c), shall be required to revise an applicable implementation plan because one or more exemptions under section 118 [42 USCS § 7418] (relating to Federal facilities), enforcement orders under section 113(d), suspensions under section 110(f) or (g) [subsecs. (f) or (g) of this section] (relating to temporary energy or economic authority), orders under section 119 [42 USCS § 7419](relating to primary nonferrous smelters), or extensions of compliance in decrees entered under section 113(e) (relating to iron- and steel-producing operations) have been granted, if such plan would have met the

requirements of this section if no such exemptions, orders, or extensions had been granted.

(4) [Repealed]

(5) (A) (i) Any State may include in a State implementation plan, but the Administrator may not require as a condition of approval of such plan under this section, any indirect source review program. The Administrator may approve and enforce, as part of an applicable implementation plan, an indirect source review program which the State chooses to adopt and submit as part of its plan.

(ii) Except as provided in subparagraph (B), no plan promulgated by the Administrator shall include any indirect source review program for any air quality control region, or portion thereof.

(iii) Any State may revise an applicable implementation plan approved under section 110(a) [42 USCS § 7410(a)] to suspend or revoke any such program included in such plan, provided that such plan meets the requirements of this section.

(B) The Administrator shall have the authority to promulgate, implement and enforce regulations under section 110(c) [42 USCS § 7410(c)] respecting indirect source review programs which apply only to federally assisted highways, airports, and other major federally assisted indirect sources and federally owned or operated indirect sources.

(C) For purposes of this paragraph, the term "indirect source" means a facility, building, structure, installation, real property, road, or highway which attracts, or may attract, mobile sources of pollution. Such term includes parking lots, parking garages, and

other facilities subject to any measure for management of parking supply (within the meaning of section 110(c)(2)(D)(ii) [42 USCS § 7410(c)(2)(D)(ii)]), including regulation of existing off-street parking but such term does not include new or existing on-street parking. Direct emissions sources or facilities at, within, or associated with, any indirect source shall not be deemed indirect sources for the purpose of this paragraph.

(D) For purposes of this paragraph the term "indirect source review program" means the facility-by-facility review of indirect sources of air pollution, including such measures as are necessary to assure, or assist in assuring, that a new or modified indirect source will not attract mobile sources of air pollution, the emissions from which would cause or contribute to air pollution concentrations—

(i) exceeding any national primary ambient air quality standard for a mobile source-related air pollutant after the primary standard attainment date, or

(ii) preventing maintenance of any such standard after such date.

(E) For purposes of this paragraph and paragraph (2)(B), the term "transportation control measure" does not include any measure which is an "indirect source review program".

(6) No State plan shall be treated as meeting the requirements of this section unless such plan provides that in the case of any source which uses a supplemental, or intermittent control system for purposes of meeting the requirements of an order under section 113(d) or section 119 (relating to primary nonferrous smelter orders) [42

USCS § 7419], the owner or operator of such source may not temporarily reduce the pay of any employee by reason of the use of such supplemental or intermittent or other dispersion dependent control system.

42 U.S.C. § 7521. Emission standards for new motor vehicles or new motor vehicle engines

(a) Authority of Administrator to prescribe by regulation

Except as otherwise provided in subsection (b) of this section—

(1) The Administrator shall by regulation prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare. Such standards shall be applicable to such vehicles and engines for their useful life (as determined under subsection (d), relating to useful life of vehicles for purposes of certification), whether such vehicles and engines are designed as complete systems or incorporate devices to prevent or control such pollution.

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No. 05-1120

IN THE

Supreme Court of the United States

COMMONWEALTH OF MASSACHUSETTS, ET AL.,
Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, ET AL.,
Respondents.

On Writ of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

BRIEF FOR RESPONDENT UTILITY AIR REGULATORY GROUP

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QUESTIONS PRESENTED

1. Whether, in this challenge to the Environmental Protection Agency's ("EPA") denial of a petition for rulemaking on greenhouse gas emissions from new motor vehicles under section 202(a)(1) of the Clean Air Act, 42 U.S.C. 7521(a)(1), petitioners established standing, *i.e.*, that they suffer concrete, particularized, and imminent injury that was caused by EPA's denial of the petition and that would be redressed by a judicial decision in their favor.

2. Whether it was within EPA's discretion to deny the petition for rulemaking based on scientific uncertainty and other policy factors.

3. Whether EPA's determination that it does not have authority under the Clean Air Act to regulate new motor vehicles' greenhouse gas emissions comported with and reflected a reasonable interpretation of that statute.

PARTIES TO THE PROCEEDING

The parties are listed in the Brief for the Petitioners. Pursuant to Rule 29.6, Respondent Utility Air Regulatory Group filed a disclosure statement in its brief in opposition to the petition for a writ of certiorari, and that statement remains accurate.

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BRIEF FOR RESPONDENT UTILITY AIR REGULATORY GROUP

STATEMENT OF THE CASE

This case involves review of the U.S. Environmental Protection Agency's ("EPA" or "Agency") denial of a petition for rulemaking asking it to regulate greenhouse gas emissions from new motor vehicles under section 202(a)(1) of the Clean Air Act ("CAA" or "Act"), 42 U.S.C. 7521(a)(1), to address global climate change. Petition for Rulemaking and Collateral Relief Seeking the Regulation of Greenhouse Gas Emissions from New Motor Vehicles Under § 202 of the Clean Air Act (Oct. 20, 1999), Joint Appendix ("J.A.") 5; EPA, Control of Emissions From New Highway Vehicles and Engines, Notice of denial of petition for rulemaking, Appendix to Cert. Pet. ("Pet App.") A59. Petitioners sought review of EPA's denial in the United States Court of Appeals for the District of Columbia Circuit. In a divided opinion, that court held that EPA properly exercised its discretion in denying the petition. Pet. App. A1 (Randolph, J.); *id.* at A16 (Sentelle, J., concurring in the judgment).

I. The Petition For Rulemaking

The International Center for Technology Assessment ("ICTA") and 18 other entities[1] filed the petition for rulemaking in 1999 under the Administrative Procedure Act ("APA"),[2] asking EPA to regulate emissions of carbon dioxide ("CO_2") and three other greenhouse gases (methane, ni-

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[1] The entities that filed the petition for rulemaking are listed at J.A. 7-11. They include four of the petitioners in this case: ICTA, Environmental Advocates, Friends of the Earth, and Greenpeace.

[2] J.A. 6 (citing 5 U.S.C. 553(e)).

trous oxide, and hydrofluorocarbons) from new motor vehicles and new motor vehicle engines under section 202(a)(1) of the Act for the purpose of addressing global climate change. That provision states:

> The Administrator [of EPA] shall by regulation prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.

42 U.S.C. 7521(a)(1). After setting out their views of the health and welfare consequences of greenhouse gases in the global atmosphere, the petitioners argued that "[u]nder the CAA, the Administrator [of EPA] is permitted to make a precautionary decision to regulate pollutants in order to protect public health and welfare" and that "[i]n addition . . ., the Administrator has a mandatory duty to regulate greenhouse gas emissions from new motor vehicles under § 202(a)(1) of the CAA." J.A. 15.

Addressing their "mandatory duty" claim, the petitioners claimed the Administrator already had "determined that: (1) the emission of a greenhouse gas is an 'air pollutant' and is emitted from new motor vehicles; and (2) the emission causes or contributes to air pollution which may reasonably be anticipated to endanger public health or welfare." J.A. 16 (emphases omitted); see *id.* at 18 (asserting EPA already had determined "that CO_2 meets the definition [of "air pollutant"] contained in [CAA] § 302(g) [42 U.S.C. 7602(g)]") (citing a memorandum and congressional testimony by EPA general

counsels).[3] In addition, in light of what they characterized as EPA's "authority to use precaution when regulating air pollutants," *id.* at 42 (citing *Ethyl Corp.* v. *EPA*, 541 F.2d 1 (D.C. Cir. 1976) (*en banc*) (Wright, J.)), the petitioners urged EPA to conduct rulemaking even if it "believe[d] that there are scientific uncertainties regarding the actual impacts from global warming." *Id.* at 41-42.

II. EPA's Response To The Petition For Rulemaking

EPA solicited public comment on the petition for rulemaking. 66 Fed. Reg. 7486 (2001). Thereafter, certain petitioners filed suit in the U.S. District Court for the District of Columbia to enforce their APA right, see 5 U.S.C. 555(b), (e), to a reasonably timely response to the petition. *International Center for Technology Assessment* v. *Whitman*, No. 02-2376 (D.D.C., filed Dec. 5, 2002). EPA's denial of the petition at issue here mooted that case. See *id.*, Order of Sept. 24, 2003 (dismissing case as moot on parties' joint motion); Pet. App. A59 (EPA notice of denial of petition for rulemaking).

EPA set forth three grounds for its denial of the petition. First, based on the Act's language and legislative history, other statutes, congressional decisions, and statutory interpretation principles underlying *FDA* v. *Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000), EPA determined it lacked authority under the CAA to regulate greenhouse gas

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[3] Petitioners supported their assertion that the Administrator already had determined that section 202(a)(1)'s criteria for regulation were met for these gases by relying on statements from an EPA website discussing various possible effects of global warming generally, see, *e.g.*, J.A. 22, 26, 29, 30, 31, 32, 34, non-EPA sources, such as a report of the United Nations Intergovernmental Panel on Climate Change ("IPCC"), see *id.* at 22-23, 25-28, 33-35, an article in a medical journal, see *id.* at 24-25, and a physician's statement, see *id.* at 33.

emissions for the purpose of addressing global climate change. Pet. App. A69-A79. The Agency said that "[i]n light of Congress' attention to the issue of global climate change, and the absence of any direct or even indirect indication that Congress intended to authorize regulation under the CAA to address global climate change, it is unreasonable to conclude that the CAA provides the Agency with such authority." *Id.* at A78.

Second, EPA determined that even if the CAA authorized it to regulate greenhouse gas emissions to address global climate change, granting the rulemaking petition would impermissibly conflict with Title V of the Energy Policy and Conservation Act ("EPCA"), 49 U.S.C. 32901-32919, which gives sole authority to set motor vehicle fuel economy standards to the U.S. Department of Transportation. Pet. App. A79-A80. EPA found that "[a]t present, the only practical way to reduce tailpipe emissions of CO_2 [the most prevalent greenhouse gas] is to improve fuel economy." *Id.* at A79. EPA concluded that "any EPA effort to set CO_2 tailpipe standards under the CAA would either abrogate EPCA's regime (if the standards were effectively more stringent than the applicable [fuel economy] standard) or be meaningless (if they were effectively less stringent)." *Id.* at A80.

Third, EPA determined that, assuming *arguendo* that it had authority to regulate greenhouse gas emissions to address global climate change, section 202(a)(1) of the CAA—the provision at issue—gives EPA's Administrator discretion to determine "in his judgment" whether, based on the facts before the Agency, the emissions in question "may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. 7521(a)(1). EPA observed that the Administrator had never made a determination under the CAA that greenhouse gas emissions may reasonably be anticipated to endanger public health or welfare and that the timing of any endan-

germent determination is within his discretion. Pet. App. A80-A81. EPA thus determined that, contrary to the petitioners' argument, it had no mandatory duty to undertake rulemaking. Moreover, EPA concluded that the scientific evidence before it in reviewing the petition, including the National Research Council's report, *Climate Change Science: An Analysis of Some Key Questions* (2001) ("NRC Report"), was "extraordinarily complex and still evolving" and reflected "'considerable uncertainty in current understanding of how the climate system varies naturally and reacts to emissions of [greenhouse gases].'" Pet. App. A83 (quoting NRC Report). EPA also observed that, given the global nature of atmospheric concentrations of CO_2, it is "extremely difficult to evaluate" to what extent any "effects in the U.S. would be related to anthropogenic [CO_2] emissions in the U.S." *Id.* at A73.

In light of the scientific uncertainty on these critical issues, EPA found no basis for making an endangerment determination and regulating motor vehicles' greenhouse gas emissions under section 202(a) of the CAA. *Id.* at A86 (declining to regulate "[u]ntil more is understood about the causes, extent and significance of climate change"). EPA concluded that "establishing [greenhouse gas] emission standards for U.S. motor vehicles at this time would require EPA to make scientific and technical judgments without the benefit of the studies being developed to reduce uncertainties and advance technologies." *Id.* at A85. EPA also referred to additional policy factors counseling against granting the petition: the risk that imposing domestic emission controls would undermine efforts to negotiate global climate change solutions with foreign governments; inefficiencies associated with piecemeal regulation; and technological limitations. See *id.* at A85-A87. Accordingly, EPA determined that, even if it

had authority under the CAA to undertake rulemaking, it had neither an obligation nor a sound basis to do so.

III. The Court Of Appeals' Decision

Without deciding whether section 202(a)(1) or any other CAA provision authorizes EPA to regulate for global climate change purposes, see *id.* at A10 & n.1, the D.C. Circuit, in a lead opinion authored by Judge Randolph, denied the petitions, holding that, even assuming *arguendo* EPA has such authority, it properly exercised its discretion in denying the rulemaking petition. *Id.* at A11-A15 (Randolph, J.); see also *id.* at A20 (Sentelle, J., concurring in the judgment). Judge Sentelle found that petitioners lacked standing because they failed to show particularized injury, *id.* at A16-A19; he therefore would have dismissed the petitions for review for lack of jurisdiction. Judge Sentelle nevertheless joined in the judgment denying the petitions because, in his view, a panel majority (consisting of Judges Randolph and Tatel) "h[e]ld[] that we have jurisdiction to render judgment," and because denial of those petition was the "judgment closest to that which I myself would issue." *Id.* at A20 (Sentelle, J.). But see *id.* at A21 ("Judge Randolph does not resolve whether petitioners have standing.") (Tatel, J., dissenting). Judge Tatel found that at least one petitioner (Massachusetts) had standing, *id.* at A27, and he dissented from the panel's judgment on the merits, concluding that EPA had "misinterpreted the scope of its statutory authority" and had provided a legally inadequate justification for the petition denial, *id.* at A58. The court denied petitions for rehearing. *Id.* at A94-A98.

SUMMARY OF ARGUMENT

Petitioners seek to use this litigation as part of an effort to effect a momentous reversal of the federal government's pol-

icy on global climate change—an issue with sweeping implications for our nation's domestic and international affairs. Congress and the President have determined that the nation's interests are best served by approaches to global climate change that involve supporting climate change research, developing and deploying advanced technologies, encouraging voluntary projects to limit greenhouse gas emissions, and pursuing diplomatic negotiations to achieve international agreements. Congress and the President have deliberately eschewed mandatory greenhouse gas emission reduction requirements.

Dissatisfied with the results of the political process, petitioners urge this Court to hold that EPA wrongly concluded it lacks authority under the CAA to impose such emission reduction requirements. They argue also that EPA, in declining to initiate rulemaking, reached an incorrect conclusion in its consideration of scientific uncertainty in the record before it and erred by weighing other factors that Executive Branch agencies may properly consider in deciding whether and when to commit their administrative resources to new rulemaking. Petitioners' arguments must be rejected.

First, the Court should dismiss these cases because petitioners lack standing. Petitioners failed to show injury-in-fact because the evidence before the court of appeals—declarations that speak of projected risks of effects over periods of decades in the future—demonstrates no imminent, impending harm of the sort this Court repeatedly has required before a federal lawsuit may proceed. Petitioners also failed to show that EPA's decision not to initiate rulemaking to impose limits on certain greenhouse gas emissions from new motor vehicles in the United States caused their asserted harm. Petitioners admit that these emissions represent but a fraction of the worldwide atmospheric concentrations of greenhouse gases that they assert are the source of their al-

leged harm. Equally important, petitioners did not and cannot show that reversal of the judgment below would redress the injuries they claim. Indeed, CAA provisions on which they rely make clear that, even if they were to prevail here, emission reductions might well occur, if at all, too late to redress any imminent injury.

Second, the D.C. Circuit properly found that EPA's denial of the petition for rulemaking was a permissible exercise of its broad administrative discretion. Under established administrative law principles, an agency's denial of a rulemaking petition is afforded the highest degree of deference, and courts should overturn such a decision only in the most extraordinary circumstances. No such circumstances exist here. EPA met the APA's requirement that it provide a reasoned basis for its denial. Moreover, in determining that it was not appropriate to undertake rulemaking in response to the petition, EPA properly relied on evidence of scientific uncertainty in the record before it and properly considered other, pertinent policy factors. Further, unlike some other provisions of the Act, section 202(a)(1) does not constrain EPA's authority to determine *when* rulemaking may be appropriate; Congress gave EPA broad discretion to decide the timing of any rulemaking or regulation under that section.

Third, upon reviewing the Act as a whole, its legislative history, and other relevant congressional actions and enactments, EPA reasonably concluded that it has no authority under the CAA to regulate greenhouse gas emissions from new motor vehicles to address global climate change. This conclusion fully comports with the statute and reflects a permissible interpretation that this Court should affirm.

ARGUMENT

I. This Case Must Be Dismissed Because Petitioners Lack Standing.

Parties asking federal courts to adjudicate their claims must, under Article III of the Constitution, establish their standing to do so. *FW/PBS, Inc.* v. *City of Dallas*, 493 U.S. 215, 231 (1990); see *DaimlerChrysler* v. *Cuno*, 126 S. Ct. 1854, 1861 n.3 (2006) ("the party asserting federal jurisdiction when it is challenged has the burden of establishing it"); *Elk Grove Unified Sch. Dist.* v. *Newdow*, 542 U.S. 1, 11 (2004) ("In every federal case, the party bringing the suit must establish standing to prosecute the action."); *Steel Co.* v. *Citizens for a Better Env't*, 523 U.S. 83, 104 (1998) ("the party invoking federal jurisdiction bears the burden of establishing its existence"). Standing "must affirmatively appear in the record." *FW/PBS*, 493 U.S. at 231 (internal quotations and citation omitted). Indeed, where, as here, standing is challenged, federal courts *must presume lack* of jurisdiction "unless the contrary appears affirmatively from the record." *Renne* v. *Geary*, 501 U.S. 312, 316 (1991) (internal quotation marks and citations omitted), quoted in *DaimlerChrysler*, 126 S. Ct. at 1861 n.3. This rule follows from the principle that "[a] federal court is powerless to create its own jurisdiction by embellishing otherwise deficient allegations of standing." *Whitmore* v. *Arkansas*, 495 U.S. 149, 155-56 (1990).

Thus, to avoid dismissal of this case, petitioners must discharge their burden of demonstrating affirmatively—based on the record before the reviewing court below—that they satisfy each element of Article III standing: that they (1) suffered actual injury that was (2) "fairly traceable" to EPA's denial of their rulemaking petition and (3) "likely" to be redressed by "a favorable decision." *Allen* v. *Wright*, 468 U.S. 737, 751 (1984) (internal quotation marks and citations omit-

ted); see also *DaimlerChrysler*, 126 S. Ct. at 1861 (quoting *Allen*, 468 U.S. at 751); *Lujan* v. *Defenders of Wildlife*, 504 U.S. 555, 560-61 (1992). Standing will not be found absent allegations of "specific, concrete facts demonstrating that the challenged practices harm [petitioners], and that [petitioners] personally would benefit in a tangible way from the court's intervention." *Warth* v. *Seldin*, 422 U.S. 490, 508 (1975).

In the present case, petitioners' standing was: (1) challenged by EPA in the court of appeals; (2) found to be absent by one of the three members of the panel, see Pet. App. A16 (Sentelle, J., concurring in the judgment); and (3) was questioned and not clearly found to exist by one of the other three judges, see *id.* at A8-A9 (Randolph, J.); *id.* at A21 (Tatel, J., dissenting) ("Judge Randolph does not resolve whether petitioners have standing"). But see *id.* at A20 ("The majority today holds that we have jurisdiction to render judgment . . . .") (Sentelle, J.). Thus, even though petitioners' constitutional standing was put in issue, the court of appeals articulated no clear holding that standing was present.

After petitioners sought review here, EPA presented a detailed argument that petitioners had failed to demonstrate standing. Br. for Fed. Resp. in Opp. 10-15. Yet, notwithstanding that federal appellate courts must always assure themselves of the existence of their own and any lower court's Article III jurisdiction, *Bender* v. *Williamsport Area Sch. Dist.*, 475 U.S. 534, 541 (1986), petitioners here offer no affirmative argument that they have standing. Because the record discloses no basis for concluding that petitioners satisfy each element of "the irreducible constitutional minimum of standing"—injury-in-fact, causation, and redressability—the petition for review must be dismissed.

A. The Record Does Not Demonstrate Direct And Imminent Injury To Petitioners.

It is a long-established rule that, where a party seeks "to invoke the judicial power to determine the validity of executive . . . action," that party "must show that *he has sustained, or is immediately in danger of sustaining,* a *direct injury* as the result of that action." *Ex Parte Levitt*, 302 U.S. 633, 634 (1937) (emphasis added); see also *DaimlerChrysler*, 126 S. Ct. at 1863 (asserted injury must be shown to be "'imminent'—that . . . is[,] 'certainly impending'") (quoting *Whitmore*, 495 U.S. at 158). To have standing, a party "must have suffered an 'injury in fact'—an invasion of a legally protected interest which is (a) concrete and particularized, . . . and (b) *actual or imminent*, not conjectural or hypothetical." *Lujan*, 504 U.S. at 560 (emphasis added; citations and internal quotation marks omitted). A review of the record—in which, as noted above, standing "must affirmatively appear," *FW/PBS*, 493 U.S. at 231—shows that petitioners failed to demonstrate direct, actual, imminent injury and therefore fail to meet the injury-in-fact requirement.

For the reasons Judge Sentelle described in his concurring opinion, petitioners' declarations supported at most only generalized injury. Pet App. A18-A19 (Sentelle, J., concurring). Even accepting *arguendo*, however, the view that petitioners' declarations below showed particularized injury, those declarations establish only a possibility of harm at some point in the future, not the "actual or imminent" injury this Court's decisions require. *Lujan*, 504 U.S. at 560. Petitioners failed to show they "sustained or [were] *immediately in danger* of sustaining some direct injury" from EPA's denial of the petition. *City of Los Angeles* v. *Lyons*, 461 U.S.

95, 102 (1983) (emphasis added) (internal quotation marks and citations omitted).[4]

The declaration of Michael MacCracken, for example, referred to computer model simulations that "projected an annual average warming of about 3 to 5°C. . . . across the U.S. *during this century*." J.A. 232-33 (emphasis added). Dr. MacCracken also discussed projections that the 24-hour average heat index would increase "by at least 6°C . . . over most of the country *by 2100*." *Id.* at 233 (emphasis added). And he discussed an estimate that effects of projected global warming "and other factors affecting the amount of water stored in reservoirs and underground" will cause certain amounts of sea-level rise "by 2100." *Id.* at 234. "More frequent flooding and inundation," he added, "have the *potential* for developing." *Id.* at 235 (emphasis added).

Similarly, Paul Kirshen's declaration, on which Judge Tatel principally relied in arguing that petitioners met the injury-in-fact requirement, see Pet. App. A27 (Tatel, J., dissenting), speaks of an average world-wide sea-level rise "by 2100" and says a certain projected sea-level rise "would mean the future 10-year flood surge elevation would be at the level of the current 100-year flood elevation and the future 100-year flood surge elevation would be at that of the current 500-year flood elevation." Kirshen Decl. ¶¶ 6, 10 (filed in the court of appeals in petitioners' Standing Appendix, Vol. II, at 196, 197-98); see *id.* ¶ 11 (expressing "opinion that when sea level rises 0.3 meters . . . in the Boston area, we will experience the equivalent of what we now think of as a 100-year flood every 10 years"), Standing App. 198.

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[4] The petition for rulemaking here sought regulation "to prevent *future* harm," J.A. 21 (emphasis added), not current, demonstrated injury. See also *id.* at 35 (petition for rulemaking) ("greenhouse gases *will* adversely affect human health and welfare in the United States") (emphasis added).

Estimated risks of projected effects developing over decades in the future is not the "concrete," "imminent," *Lujan*, 504 U.S. at 560, "direct," and "immediately . . . danger[ous]" harm, *Levitt*, 302 U.S. at 634, that is necessary for standing. Indeed, this Court held in 2003 that Senator McConnell lacked standing to challenge a campaign finance law that could not apply to him before the 2008 elections. *McConnell* v. *FEC*, 540 U.S. 93, 226 (2003). Because the feared injury would not be felt immediately—was not, in other words, "'certainly impending'"—it was simply "too remote temporally to satisfy Article III standing." *Id.* (emphasis omitted). If injury a few years away could not, under this Court's precedents, give rise to constitutional standing, a projection of a risk of sea-level rise developing gradually over decades-long periods in the future cannot suffice. See also *Shain* v. *Veneman*, 376 F.3d 815, 818-19 (8th Cir. 2004) (the risk of injury from a sewage plant built on a 100-year flood plain was too "remote"; an "imminent" harm must be "immediate"), cert. denied, 543 U.S. 1090 (2005).

Accordingly, petitioners made no showing that the "threat of injury" is "'real and immediate,'" *Lyons*, 461 U.S. at 102, "'imminent,'" *Lujan*, 504 U.S. at 564 n.2, and "certainly impending," *Whitmore*, 495 U.S. at 158—"concrete" not only in a "qualitative" but also in a "temporal sense," *id.* at 155. The "some day" injuries that petitioners allege are inadequate to support standing. *Lujan*, 504 U.S. at 564 n.2.

B. Petitioners Showed Neither That EPA's Denial Of The Rulemaking Petition Caused Their Alleged Harm Nor That A Favorable Decision Would Redress That Harm.

To survive a standing challenge, petitioners must demonstrate affirmatively not only injury-in-fact but also "a causal connection between the injury and the conduct complained

of." *Id.* at 560. "[T]he injury has to be 'fairly . . . trace[able] to *the challenged action of the defendant, and not . . . th[e] result [of] the independent action of some third party* not before the court.'" *Id.* (emphasis added) (quoting *Simon* v. *Eastern Ky. Welfare Rights Org.*, 426 U.S. 26, 41-42 (1976)). Furthermore, "it must be 'likely,' as opposed to merely 'speculative,' that the injury will be 'redressed by a favorable decision.'" *Id.* at 561 (quoting *Simon*, 426 U.S. at 38, 43).

Petitioners meet neither the causation nor the redressability criteria. They failed to establish that their asserted injuries (assuming *arguendo* that those injuries constituted injury-in-fact for standing purposes) were caused by EPA's denial of their petition requesting regulation of greenhouse gas emissions from new motor vehicles in the United States. In fact, a review of petitioners' declarations shows that the alleged injury is traceable to independent forces beyond the reach of the regulation petitioners seek. For similar reasons, petitioners failed to show that it is more than speculative to suppose that reversing EPA's denial of the rulemaking petition would redress their asserted injuries. Indeed, a CAA provision cited by petitioners—section 202(a)(2), 42 U.S.C. 7521(a)(2), which authorizes potentially prolonged deferral of the effectiveness of promulgated section 202(a)(1) regulations—highlights the conjectural nature of the notion that the relief sought here is "likely" to remedy any "imminent" harm.

1. Petitioners Failed To Show Causation.

If accepted as true, Petitioners' declarations indicate at most that emissions of greenhouse gases from a multitude of diverse sources across the planet generally will lead to global climate changes, and that global climate changes in turn will cause, or create a risk of causing, adverse effects. Petitioners did not show that EPA's denial of regulation of greenhouse

gas emissions *from new motor vehicles in the United States*—the only sources at issue in this case—caused their alleged injuries. This is illustrated by Judge Tatel's dissenting opinion:

> As to causation, the declaration of Michael MacCracken . . . states that global warming is causing sea level increases like those in Massachusetts [citing MacCracken Decl. ¶ 5(c)-(d), J.A. 225]. . . . MacCracken further states that global warming is chiefly triggered by human-caused [greenhouse gas] emissions, *see id.* ¶¶ 5(a)-(b), 12-19 [J.A. 224-25, 229-32], with "the U.S. transportation sector (mainly automobiles) . . . responsible for about 7% of global fossil fuel emissions," *id.* ¶ 31 [J.A. 238].

Pet App. A28. Another of petitioners' declarations reports that the percentage of "global [greenhouse gas] emissions" that is attributable to "U.S. mobile sources, the subject of this action," is lower still: 4 percent. Oppenheimer Decl. ¶ 3, Standing App., Vol. II, at 232. The record thus provides no basis for concluding that asserted harm from global climate change is caused by the limited fraction of worldwide emissions attributed to "the U.S. transportation sector" or "U.S. mobile sources," rather than, for example, emissions from other manmade and natural sources of greenhouse gases around the globe and perhaps other factors.[5] Furthermore, as

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[5] The MacCracken declaration, for example, suggests some global warming is traceable to "natural oscillations" in climate. J.A. 230 ("The warming has also been larger than could be explained by past natural oscillations in the climate since the end of the last glaciation about 10,000 years ago."). Other causes, independent of anthropogenic greenhouse gas emissions, also are indicated by petitioners' declarations. See, e.g., Oppenheimer Decl. ¶ 3 (atmospheric greenhouse gas concentrations in part "reflect . . . loss of forests globally"), Standing App. 232.

EPA determined in denying the rulemaking petition, "[t]he long-lived nature of the CO_2 global pool would . . . make it extremely difficult to evaluate the extent over time to which effects in the U.S. would be related to anthropogenic emissions in the U.S."—including, of course, emissions from the U.S. transportation sector. Pet. App. A73.

Even if the U.S. transportation sector *were* shown to be responsible, however, one cannot tell from the record whether the asserted harm would occur but for emissions from *new* U.S. motor vehicles—a subset of all U.S. motor vehicles, itself a subset of the fraction of "global fossil fuel emissions" attributed by petitioners to "the U.S. transportation sector." J.A. 238. This point is critically important because section 202(a)(1) authorizes regulation *only* of emissions from new U.S. motor vehicles. It does not, for example, authorize control of emissions from "the U.S. transportation sector," from all motor vehicles throughout the world, or even from on-the-road, registered motor vehicles in this country.

The record also would not support any argument that any putative current harm is traceable to the challenged EPA decision. The MacCracken declaration suggests that the cause of alleged injury is a general increase in global "atmospheric concentrations" of three greenhouse gases "*since about 1750* as a result of human activities, principally the combustion of fossil fuel." *Id.* at 224 (emphasis added). It is this general increase in global atmospheric concentrations of certain gases as a consequence of humanity's activities worldwide stretching back to the dawn of the Industrial Revolution—*not* EPA's denial in 2003 of a request to initiate rulemaking to control emissions from American cars and trucks to be built in future years—that, in the words of petitioners' declarant, is "widely considered to be the major factor responsible for the

global warming . . . that occurred during the 20th century." *Id.*

Further, the Kirshen declaration—on which Judge Tatel relied in arguing that a rise in sea level along the Massachusetts coast was traceable to global climate change generally—undermines rather than supports attribution of alleged injuries from that sea-level rise to greenhouse gas emissions from U.S. motor vehicles. Mr. Kirshen declares that an independent, extraneous factor "contributes significantly" to sea-level rise in Massachusetts:

> [I]n the Boston area, *land subsidence* also contributes significantly to sea level rise. Over the past century, approximately 15 cm (5.9 inches) of the rise in sea level that has occurred in Boston is attributable to land subsidence.

Kirshen Decl. ¶ 6 (emphasis added), Standing App. 197. The declaration offers no information about what part of this sea-level rise is due to global warming, to greenhouse gas emissions generally, or to greenhouse gas emissions from the transportation sector, motor vehicles, U.S. motor vehicles, or—what is actually relevant here—new U.S. motor vehicles. The declaration does disclose, however, that the sea-level rise (15 centimeters) that Mr. Kirshen says "is attributable" to the extraneous factor of land subsidence is at *the mid-point* of the range of the asserted "global average sea level rise of 10-20 cm" during the 20th century. *Id.* (citing MacCracken Decl.), Standing App. 196; see J.A. 234 (MacCracken Decl.) (range of 10 to 20 centimeters). Accordingly, given this record, any argument that the asserted Massachusetts sea-level rise—to which Judge Tatel pointed as the best evidence that standing exists—is traceable to EPA's challenged decision or to new U.S. motor vehicles' greenhouse gas emissions, rather than to

other factors such as the land subsidence petitioners' declaration identifies, rests on mere conjecture.

Equally unsupported is any conclusion that projected *future* sea-level rise will result from EPA's decision not to undertake a section 202(a)(1) rulemaking to control new U.S. motor vehicles' greenhouse gas emissions. To the contrary, the Kirshen declaration gives reason to conclude that sea-level rise will occur "regardless of" global climate change—and, thus, regardless of any effects of new U.S. motor vehicles' greenhouse gas emissions: "This rise in sea level due to [land] subsidence would be expected in the next century in the Boston area regardless of, and in addition to, the projected rise in sea level due to climate change." Kirshen Decl. ¶ 6, Standing App. 197. The MacCracken declaration reflects the point more broadly: "To determine the projected sea level rise at a particular location, the local rate of subsidence or uplift must also be accounted for." J.A. 234. In short, based on petitioners' evidence in the record, it is speculative whether the alleged injury from the sea-level rise they describe is traceable at all to EPA's decision or to the vehicle emissions they seek to have regulated. Standing does not exist where, as here, "[s]peculative inferences are necessary to connect [petitioners'] injury to the challenged actions." *Simon*, 426 U.S. at 45.

2. Petitioners Failed To Show Redressability.

Even assuming *arguendo* that petitioners suffer injury-in-fact caused by EPA's denial of the rulemaking petition, petitioners failed to demonstrate that a decision in their favor in this case would redress that injury. Indeed, petitioners failed to clear even the initial hurdle: showing that the judicial relief they seek would yield a different regulatory outcome. Beyond that, petitioners made no showing that, even if EPA adopted regulations limiting greenhouse gas emissions from

new U.S. motor vehicles, the global climatic phenomena they describe would be abated so as to remedy the harm they claim. Finally, petitioners did not show that any such regulation would occur soon enough to redress any current or any imminent, impending injury—the only kinds of injury cognizable under standing law.

a. Petitioners ask this Court to "remand" EPA's denial of the rulemaking petition "with directions to apply the correct legal standard to this matter; that is all." Pet. Br. 3. Thus, they say, "judgment in favor of petitioners will not mandate regulation of air pollutants associated with climate change, nor will it dictate a particular answer to the [endangerment] question" they want EPA to decide. *Id.* In other words, petitioners' own characterization of the relief they seek makes entirely speculative whether a decision in their favor in this case will in any measure remedy the injuries asserted in their standing declarations.

With petitioners suggesting no way around this obstacle to adjudication of their claims, *amici* U.S. Conference of Mayors, *et al.*, offer one—but it turns out to be a dead end. *Amici* acknowledge the "uncertainty introduced by the limited nature of the relief sought by Petitioners" because "Petitioners are not asking for an order requiring EPA to regulate greenhouse gases under Section 202." Brief of the U.S. Conference of Mayors, *et al.*, as *Amici Curiae* in Support of Petitioners at 28 n.49. They argue, however, that petitioners assert a "procedural" right: the supposed right to have "EPA follow the mandatory procedures" in section 202(a)(1) of the Act. But that provision *has* no mandatory procedures, and the procedural right that petitioners *did* have—their right under the Administrative Procedure Act to obtain an Agency decision on their rulemaking petition—was asserted and vindicated through earlier litigation in the district court. See *supra* at 3. *Amici*'s citation of note 7 in *Lujan*—recognizing

the possibility of relaxation of "the normal standards for redressability and immediacy" for litigants asserting unsatisfied procedural rights such as the right to agency compliance with an environmental impact statement requirement, 504 U.S. at 572 & n.7—is, thus, unavailing; petitioners are entitled to no relaxation of normal redressability standards.

b. Petitioners failed to demonstrate that a *reduction* in the limited fraction of global greenhouse gas emissions represented by new U.S. motor vehicles would redress their asserted injury. Petitioners did not allege, and could not plausibly argue, that regulation of new U.S. motor vehicles would *eliminate* greenhouse gas emissions from those vehicles;[6] eliminating those emissions presumably would require a regime mandating that no new cars or trucks could burn gasoline, diesel fuel, or other fossil fuels, and petitioners purport to disclaim any intent to bring about such radical changes. See Pet. Br. 19-20 & n.10; see also Pet. App. A82 (in denying the rulemaking petition, EPA concluded that promulgation of greenhouse gas emission standards for new motor vehicles would not be "effective . . . at this time").

The MacCracken declaration, on which Judge Tatel relied in dissent, offers the following "[s]ummary of [o]pinion[]": "Achievable reductions in emissions of CO_2 and other greenhouse gases from U.S. motor vehicles would significantly reduce the build-up in atmospheric concentrations of these gases and delay and moderate many of the adverse impacts of global warming." J.A. 225-26. The declarant, however, provided no information supporting or explaining the basis for this conclusory statement. What kinds of reductions are

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[6] Indeed, as noted above, petitioners stated that the entire U.S. transportation sector (not limited to new U.S. motor vehicles) is responsible for about 7 percent of global fossil fuel emissions. J.A. 238. Petitioners failed to demonstrate even that elimination of *all* emissions from the *entire* U.S. transportation sector would redress their asserted injuries.

"[a]chievable"? In what timeframe are they achievable? What amount of reductions would result? Perhaps most important: To what degree, if at all, would "[a]chievable reductions" "delay and moderate" the specific injuries petitioners allege as a basis for their standing, such as sea-level rise in Massachusetts? No answers are given.

In the absence of support for a conclusion that achievable emission reductions from new motor vehicles in the United States alone will redress their asserted harms, petitioners resort to a theory that adoption of new motor vehicle emission standards in this country under CAA section 202(a)(1) will trigger similar regulation by independent foreign governments, yielding a supposed multinational reduction in greenhouse gases that will some day mitigate some of the projected effects of global climate change:

> If the U.S. takes steps to reduce motor vehicle emissions, other countries are very likely to take similar actions regarding their own motor vehicles using technology developed in response to the U.S. program, thereby multiplying the total emission reduction benefit of the U.S. action. This would discernibly and significantly reduce and delay projected adverse consequences of global warming, and greatly improve the likelihood that there would be time for additional development and use of even better technologies. With such efforts, accompanied by progress in limiting other emissions, it would be much more likely that the extent of climate change could ultimately be limited to levels that would avoid the most serious impacts of global warming.

Id. at 239. Another declaration makes a similar assertion. See Pet. App. A29 (Tatel, J., dissenting) (quoting Walsh Decl. ¶ 10 ("establishing emissions standards for pollutants

that contribute to global warming would lead to investment in developing improved technologies to reduce those emissions from motor vehicles, and . . . successful technologies would gradually be mandated by other countries"), J.A. 244); see also Walsh Decl. ¶ 12, J.A. 245.

Petitioners' theory is fatally flawed. It rests on an inescapably speculative series of suppositions: that (1) a favorable decision in this case would trigger regulation in the United States of new motor vehicles, which in turn would (2) start a chain reaction of similar regulation by governments in (unidentified) foreign countries, which eventually would (3) moderate alterations in the planet's climate, in turn (4) avoiding some unspecified adverse effects of global warming. First, courts do not and cannot find standing where a claim that "injury would be redressed by a favorable decision in th[e] case [at hand] depends on the unfettered choices made by independent actors not before the courts and whose exercise of broad and legitimate discretion the courts cannot presume either to control or to predict." *ASARCO Inc.* v. *Kadish*, 490 U.S. 605, 615 (1989) (opinion of Kennedy, J.); see also, *e.g.*, *DaimlerChrysler*, 126 S. Ct. at 1863. Whatever effects a favorable decision for petitioners in this litigation may have on EPA regulatory policies, on domestic United States emissions, and on petitioners' claimed injuries—and any such effects are themselves enormously uncertain, for reasons discussed above—that decision's possible effects on actions of foreign sovereigns is something United States courts plainly "cannot presume either to control or to predict." *ASARCO*, 490 U.S. at 615. Petitioners' redressability theory rests on conjecture.

Second, as noted above, the MacCracken declaration predicts that the asserted reduction and delay in global warming's effects would "greatly improve the likelihood that there would be time for additional development and use of even

better technologies." J.A. 239. The declaration thus asserts that some increase in the probability of development and use of some "better"—but undefined—technologies would materialize at some point in the future if unspecified foreign governments follow the United States' lead in regulation. Nothing concrete is offered, however, to support this hypothesis.

Third, Dr. MacCracken's declaration qualifies its central prediction—*i.e.*, that the likelihood of avoiding "the most serious impacts" would be increased by potential future foreign controls on motor vehicles, *id.*—by making even that vague prognostication conditional both on (as discussed above) future invention and application of unidentified "better" technologies that do not now exist *and* on "progress in limiting other emissions," *id.* This last factor is also extraneous and independent: "limiting other emissions" presumably means limiting greenhouse gas emissions from sources other than motor vehicles—something that is outside the scope of the regulation petitioners seek in this case and that *petitioners themselves* argue cannot be thought to result from a decision in their favor here. See Pet. Br. 27-29. Petitioners' multiple layers of speculation defeat any claim of redressability.

c. Accepted at face value (and putting to one side their speculative nature), petitioners' declarations establish that any conceivable "redress" would occur only well in the future, long after the time when any current or *imminent* injury[7] could be remedied through the emission regulation petitioners seek. This is illustrated by the MacCracken declaration's reliance on its extended chain of hypothesized events involving future regulatory actions by foreign governments, "additional development and use of even better technologies," and

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[7] See *Lujan*, 504 U.S. at 564 n.2 (noting "the settled requirement that the injury complained of be, if not actual, then at least *imminent*") (emphasis in original).

future "progress in limiting other emissions"—a collection of scenarios that in concert "could *ultimately*," it is claimed, avoid some effects of global warming. J.A. 239 (emphasis added); see also *id.* at 244 (Walsh Decl.) (predicting that, if petitioners obtain the requested domestic regulation, "successful technologies would *gradually* be mandated by other countries") (emphasis added). This postulated "ultimate[]" relief, materializing only upon the occurrence of possible future events over an indefinite period in years to come, cannot be squared with an argument that the injury thus "remedied" was, at the time this litigation commenced,[8] "imminent" and "impending."

This fatal inconsistency in petitioners' position is only emphasized by their assurance that any new motor vehicle emission regulations promulgated under section 202(a)(1) of the Act need not—thanks to section 202(a)(2) and other provisions of section 202—become effective for an indeterminate, and possibly prolonged, period, irrespective of the "endangerment." Under section 202(a)(2) and 202(a)(4)(A), petitioners observe,

> a range of factors beyond "endangerment" are relevant, including the time needed "to permit the development and application of the requisite technology," taking compliance costs into account [citing CAA § 202(a)(2)], and the existence of "an unreasonable risk to public health, welfare, or safety" due to the "operation or function" of an emission control "device, system, or element of design" [citing CAA § 202(a)(4)(A)].

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[8] "[S]tanding is to be determined as of the commencement of suit." *Lujan*, 504 U.S. at 570-71 n.5 (plurality opinion).

Pet. Br. 36. Indeed, the statute imposes no deadline by which any emission controls would have to take effect; section 202(a)(2) says that "[a]ny regulation prescribed under paragraph (1) of this subsection . . . *shall take effect after such period as the Administrator finds necessary to permit the development and application of the requisite technology*, giving appropriate consideration to the cost of compliance within such period." 42 U.S.C. 7521(a)(2) (emphasis added); see also Pet. Br. 40 ("the remainder of section 202 [beyond section 202(a)(1)] . . . direct[s] EPA's attention to the availability of technology" in setting emission controls' effective date). Given these statutory provisions, petitioners cannot show that the emission controls they seek would take effect quickly enough to remedy any imminent, impending injury.[9]

II. In Declining To Undertake Rulemaking, EPA Exercised Its Administrative Discretion Reasonably And Consistently With The Act.

The court of appeals properly found that EPA's denial of the petition for rulemaking was a reasonable exercise of the Agency's broad discretion. EPA's decision was consistent with the firmly established principle that Executive Branch agencies have authority to decide whether and when to undertake rulemaking. Moreover, EPA more than satisfied the APA's requirement that agencies explain "the grounds for denial." 5 U.S.C. 555(e). Further, contrary to petitioners' argument, it was perfectly consistent with the CAA for EPA

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[9] See, *e.g.*, 59 Fed. Reg. 16,262, 16,263, 16,267 (1994) (emission control requirements promulgated by EPA in 1994 under section 202(a)(1) for certain motor vehicles would not "begin implementation" until model year 2004—nearly a decade after promulgation—with implementation phased in over three years; EPA determined "[t]his schedule will permit the development and application of cost-effective, and economically achievable technology, as required by section 202(a)(2).").

to consider scientific uncertainty and other policy factors in determining that no adequate basis existed, on the record before it, to make an "endangerment" determination and to conduct rulemaking under section 202(a)(1) of the Act.

A. Under Fundamental Principles Of Administrative Law, EPA's Denial Of The Petition For Rulemaking Was Well Within Its Discretion.

As recognized in the decisions of the D.C. Circuit—"the premier intermediate court for adjudicating issues of agency power," Cert. Pet. 4—it is a long-standing, bedrock tenet of administrative law that courts must give a high degree of deference to a federal agency's decision, based on the facts and in light of the particular circumstances before it, to decline a request to institute rulemaking proceedings. *National Customs Brokers & Forwarders Ass'n* v. *United States*, 883 F.2d 93, 96 (D.C. Cir. 1989) (Ginsburg, R.B., J.) (The scope of review of an agency's denial of a rulemaking petition is "extremely limited" and "highly deferential."). Thus, agency decisions denying rulemaking petitions are subject to reversal "only in the rarest and most compelling of circumstances." *WWHT, Inc.* v. *FCC*, 656 F.2d 807, 818 (D.C. Cir. 1981); see also *Timpinaro* v. *SEC*, 2 F.3d 453, 461 (D.C. Cir. 1993) (same); *National Customs Brokers*, 883 F.2d at 97 (Denials of rulemaking petitions should be overturned "only for compelling cause, such as plain error of law or a fundamental change in the factual premises previously considered by the agency."); *American Horse Protection Ass'n* v. *Lyng*, 812 F.2d 1, 4-6 (D.C. Cir. 1987) (denials of rulemaking petitions entitled to "high end" of range of deference). Indeed, "an agency's refusal to initiate a rulemaking is evaluated with a deference so broad as to make the process akin to nonreviewability." *Cellnet Communication, Inc.* v. *FCC*, 965 F.2d 1106, 1111 (D.C. Cir. 1992). The D.C. Circuit's deci-

sion here comported fully with these settled administrative law precedents.

NRDC v. *SEC*, 606 F.2d 1031 (D.C. Cir. 1979), is that court's "most comprehensive statement . . . as to the availability and scope of review of an agency's decision to deny a petition for rulemaking." *WWHT*, 656 F.2d at 816. There, the D.C. Circuit held that judicial review in such cases is, and must be, extremely limited for numerous reasons:

> An agency's discretionary decision *not* to regulate a given activity is inevitably based, in large measure, on factors not inherently susceptible to judicial resolution—*e.g.*, internal management considerations as to budget and personnel; evaluations of its own competence; weighing of competing policies within a broad statutory framework. Further, even if an agency considers a particular problem worthy of regulation, it may determine for reasons lying within its special expertise that the time for action has not yet arrived. The area may be one of such rapid technological development that regulations would be outdated by the time they could become effective, or the scientific state of the art may be such that sufficient data are not yet available on which to premise adequate regulations. The circumstances in the regulated industry may be evolving in a way that could vitiate the need for regulation, or the agency may still be developing the expertise necessary for effective regulation.

NRDC v. *SEC*, 606 F.2d at 1046 (citations omitted) (emphasis in original). Because, in short, "[t]he agency's determination is essentially a legislative one, . . . the reviewing court should do no more than assure itself that the agency acted in a manner calculated to negate the dangers of arbitrariness and

irrationality." *WWHT*, 656 F.2d at 817 (internal quotation marks and citation omitted).

Given the high degree of deference afforded agencies when they deny rulemaking petitions, "there are very few cases in which courts have forced [an agency] to institute rulemaking proceedings on a particular issue after it has declined to do so." *Id.* at 818. On rare occasions, courts do remand rulemaking petition denials for an adequate explanation where the agency failed to meet the APA's minimal requirement for a brief statement of the grounds for denial. For example, in *American Horse Protection*, the Secretary of Agriculture denied a petition seeking rulemaking to reconsider regulations on the practice of "soring" horses in light of new evidence. 812 F.2d at 1-3. The Secretary's articulated statement of basis for the denial consisted of two conclusory sentences and limited statistical information, *id.* at 5—"insufficient," the D.C. Circuit held, "to assure a reviewing court that the agency's refusal to act was the product of reasoned decisionmaking," *id.* at 6.[10]

In contrast, EPA's denial of the rulemaking petition here was the product of reasoned decisionmaking and supported by grounds articulated by the Agency. The record before the D.C. Circuit enabled that court to "assure itself that the [A]gency considered the relevant factors, that it explained the facts and policy concerns relied on, and that the facts have some basis in the record." *Id.* at 5 (citations and internal quotation marks omitted). EPA provided a full explanation of its reasons for denying the petition in 12 *Federal Register* pages.

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[10] In *National Customs Brokers*, then-Judge Ginsburg, writing for the court, further clarified that the D.C. Circuit's remand in *American Horse Protection* occurred in part because the Secretary's decision contravened an unambiguous statutory command. 883 F.2d at 97. Unlike the rulemaking petition denial in *American Horse Protection*, EPA's denial here contradicted no "crystalline congressional objective." *Id.*

Pet. App. A59-A93; cf. 5 U.S.C. 555(e) (agency must give "a brief statement of the grounds for denial") (quoted in *American Horse Protection*, 812 F.2d at 4). One of the principal grounds EPA gave for its denial was the continued existence of significant scientific uncertainty reflected in the record before it. Pet. App. A82-A85; see also *NRDC* v. *SEC*, 606 F.2d at 1046 ("[T]he scientific state of the art may be such that sufficient data are not yet available on which to premise adequate regulations.") (citations omitted). EPA also discussed, as noted above, other policy concerns that would be raised by granting the petition, Pet. App. A82-A87, and described steps the President was taking to address global climate change issues, *id.* at A87-A92.

Nothing in the record before the court below presented those "rarest and most compelling of circumstances" necessary to overturn an agency denial of a rulemaking petition. *WWHT*, 656 F.2d at 818. Although petitioners obviously disagree with the *merits* of EPA's decision, such disagreement is immaterial where, as here, petitioners do not and cannot show that EPA's decision was unreasoned, or that EPA failed to "explain[] the 'facts and policy concerns' [it] relied on," or that the facts lack "some basis in the record." *American Horse Protection*, 812 F.2d at 5 (citation omitted). Accordingly, consistent with familiar and settled principles of administrative law, the D.C. Circuit properly declined to set aside EPA's decision to deny the request for rulemaking.[11]

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[11] In their reply brief supporting their *certiorari* petition, petitioners characterized EPA's position on this point as reflecting a "claim[] that its decision below may be unreviewable because it involves the denial of a rulemaking petition"; petitioners called this view "extraordinary." Pet. Reply Br. (on *certiorari*) at 5 n.1. In fact, EPA accurately characterized the case law; and, without arguing that denials of rulemaking petitions are wholly immune from judicial review, EPA explained that courts evaluate

B. The Court Of Appeals' Decision Is Fully Consistent With The Clean Air Act.

The D.C. Circuit's decision not to disturb EPA's denial of the rulemaking petition also comports with the CAA. As that court recognized, section 202(a)(1) of the Act provides EPA with discretion in deciding whether and when to exercise its expert "judgment" to determine if new motor vehicles' emissions "may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. 7521(a)(1); Pet. App. A13. Even if EPA had regulatory authority over greenhouse gas emissions as petitioners claim—and EPA does not have that authority, see Argument III *infra*—the Agency had no obligation to exercise its judgment by making an "endangerment" determination in response to ICTA's petition for rulemaking.

The D.C. Circuit properly found no grounds for granting the petitions for review of EPA's denial because the court owed deference to the Agency's expert conclusion that a sound basis for making an endangerment determination did not exist in light of substantial scientific uncertainty in the record before it. Pet. App. A11-A13; see *Ethyl*, 541 F.2d at 20 n.37 (Section 202(a)(1)'s "judgment" language is an "express provision for administrative discretion."). As the court noted, an endangerment determination under the Act "'is necessarily a question of policy that is to be based on an assessment of risks and that should not be bound by either the procedural or the substantive rigor proper for questions of fact.'" Pet. App. A15 (quoting *Ethyl*, 541 F.2d at 24).

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such denials with the greatest deference, as discussed above. Br. for the Fed. Resp. in Opp. at 17-18. To the extent petitioners intended their characterization of EPA's position as a call to overturn this bedrock principle of administrative law—one rooted in constitutional separation of powers—it is *petitioners'* position that is "extraordinary" and should be rejected.

While readily acknowledging that EPA in deciding on the petition "could appropriately consider . . . scientific uncertainty," Pet. Br. 39; see also *id.* at 41,[12] petitioners observe that the mere existence of scientific uncertainty need not paralyze regulators under all circumstances; that is, whatever authority EPA might have to regulate is not necessarily negated by the presence of any degree of uncertainty in the science. See *id.* at 41-42 & n.32 (citing *Ethyl*, 541 F.2d at 25). That principle, however, is hardly a rule that EPA *must* exercise any such authority even in the presence of substantial scientific uncertainty that the government is working to resolve. The D.C. Circuit's decision in *Ethyl* supports EPA's denial of the rulemaking petition at issue here. Pet. App. A13-A14. *Ethyl* did not involve denial of a petition for rulemaking in the face of scientific uncertainty—the kind of agency decision that is subject to an extraordinarily high degree of judicial deference. Far from it: *Ethyl* involved an industry challenge to an EPA decision *to* regulate where there was "less than certainty" about endangerment. *Ethyl*, 541 F.2d at 25. In rejecting the industry challenge, the D.C. Circuit held that an agency is not always obligated to wait for full resolution of scientific questions before commencing regulation. See *id.*; cf. J.A. 15 (ICTA petition for rulemaking: "Under the CAA, the Administrator [of EPA] is *permitted* to make a precautionary decision to regulate pollutants in order to protect public health and welfare." (emphasis added)). *Ethyl* plainly does not stand for the converse proposition petitioners urge here: that EPA *must* grant a petition to regulate despite substantial scientific uncertainty.

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[12] Petitioners therefore disagree with one of their *amici* states, which makes the plainly incorrect claim that consideration of scientific uncertainty is prohibited. Brief of *Amicus Curiae* State of Delaware in Support of Petitioners at 23-24.

Petitioners claim that EPA selectively cited statements of scientific uncertainty in the NRC Report. Pet. Br. 42-43. But, particularly given that petitioners do not dispute that significant and relevant scientific uncertainty exists,[13] petitioners' unproven accusation of selectivity, even if it were correct, is nothing but a plea to substitute *their* assessment for the expert agency's evaluation of available scientific evidence and of the uncertain state of that evidence. That petitioners would—or, indeed, that a reviewing court might—make a decision different from EPA's based on the scientific evidence that was before the Agency does not make EPA's decision arbitrary.

Equally misguided is petitioners' critique of EPA's *Federal Register* discussion as "terse." *Id.* at 43. Even if EPA's description of its reasons could fairly be characterized that way (and it cannot), petitioners do not and cannot cite any authority to support their apparent view that the Agency has a legal obligation, whenever presented with a petition for rulemaking on a technical and scientific matter, to conduct a complete analysis of the body of science on that matter and to prepare and publish in the *Federal Register* a comprehensive report on the results of its evaluation. No such principle could be more foreign to our administrative law, as defined

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[13] See, e.g., Joint Decl. of William D. Solecki, *et al*,. ¶ 8.e. ("[s]ubstantial uncertainties about climate change remain"), Standing App., Vol. II, at 264; *id.* ¶ 9.f. ("There is still considerable uncertainty about the rate and magnitude of projected climate changes."), Standing App. 266. Petitioners' *amici* climate scientists also recognize scientific uncertainty in the record before EPA; they acknowledge that the NRC Report that EPA reviewed "encompasses both the more certain and the less certain elements of the science, and *uncertainties are described explicitly*, as is the norm in scientific reports." Brief of *Amici Curiae* Climate Scientists David Battisti, *et al.*, at 18 (emphasis added); see also *id.* at 29 (discussing scientific uncertainty about whether "current projections" accurately portray "the *extent* of the damage") (emphasis in original).

by Congress and applied by the courts. Such a principle would wreak havoc on Executive Branch agencies' ability to order their administrative resources to accomplish their statutorily defined responsibilities. As discussed above, the APA requires only that a denial of a rulemaking petition "be accompanied by a *brief*"—one might almost say "terse"—"statement of the grounds for denial," 5 U.S.C. 555(e) (emphasis added), and the law is clear that an agency need supply only enough information in denying a rulemaking petition to show that its decision declining to undertake the requested rulemaking "was the product of reasoned decisionmaking." *American Horse Protection*, 812 F.2d at 6. EPA easily met that test here.

An objective review of the NRC Report supports the conclusion that EPA's decision on the rulemaking petition was rational, even if it would have been possible, based on that report, for the Agency to have reached petitioners' desired result. See *Ethyl*, 541 F.2d at 25 (scientific certainty not a prerequisite to CAA regulation). Despite Judge Tatel's "doubt [that] EPA could credibly conclude that it needs more research to determine whether [greenhouse gas]-caused global warming 'may reasonably be anticipated to endanger' welfare," Pet. App. A50-A51 (Tatel, J., dissenting), the extensive passage from the NRC Report that Judge Tatel himself quoted at length reflects *on its face* considerable scientific uncertainty regarding global climate change and its possible effects on public welfare and health. Some examples: (1) "'Changes in storm frequency and intensity are one of the *more uncertain elements* of future climate change prediction.'"—an area of scientific investigation that petitioners' *amici* agree "remains controversial" and as to which there is "a need for additional data";[14] (2) "'[T]he response of insects

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[14] Brief of *Amici Curiae* Ocean and Coastal Conservation Interests in Support of Petitioners at 17 & n.5 (the "assertion" that "hurricane inten-

and plant diseases to warming is *poorly understood.* On the regional scale and in the longer term, there is *much more uncertainty.*'"; (3) "Health outcomes in response to climate change are the *subject of intense debate.* . . . Climate change is just one of the factors that influence the frequency and transmission of infectious disease, and hence the assessments view such changes as *highly uncertain.*'"; and (4) "'The understanding of the relationships between weather/climate and human health is *in its infancy* and therefore the health consequences of climate change *are poorly understood.* The costs, benefits, and availability of resources for adaptation *are also uncertain.*'" *Id.* at A52, A53 (Tatel, J., dissenting) (quoting NRC Report) (emphasis added).

The passage from the NRC Report that Judge Tatel quoted also contains several other statements illustrating substantial uncertainty about whether any basis existed for EPA to make the requested endangerment judgment. For example: (1) "'A key conclusion from the National Assessment [of Climate Change Impacts] is that *U.S. society is likely to be able to adapt to most of the climate change impacts on human systems*, but these adaptations may come with substantial cost.'"; (2) "'In the near term, agriculture and forestry are *likely to benefit* from CO_2 fertilization effects and the increased water efficiency of many plants at higher atmospheric CO_2 concentrations.'"; (3) "'[T]he combination of the geographic and climatic breadth of the United States, possibly augmented by advances in genetics, increases the nation's robustness to climate change.'"; (4) "'[M]uch of the United States *appears to be protected* against many different adverse health outcomes related to climate change by a

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sity" is linked to "warming seas" "remains controversial"; "there is a need for additional data," in part because of "questions about the possible underestimation of the intensity of historic tropical cyclones, thus making more recent storms appear stronger by comparison").

strong public health system, relatively high levels of public awareness, and a high standard of living.'"; and (5) "'At a national level, the direct economic impacts [of global climate change] are *likely to be modest* [while] on a regional basis the level and extent of *both beneficial and harmful impacts* will grow.'" *Id.* at A51, A52, A53, A54 (Tatel, J., dissenting) (quoting NRC Report) (emphasis added).

Given the information in the NRC Report, EPA found, in responding to the petition, that "[t]he science of climate change is extraordinarily complex and still evolving." *Id.* at A83. EPA therefore reasonably concluded that the remaining uncertainties in the evolving science, and the need to continue working to reduce those uncertainties, counseled against regulatory action at that time:

> [T]here continue to be important uncertainties in our understanding of the factors that may affect future climate change and how it should be addressed. As the NRC explained, predicting future climate change necessarily involves a complex web of economic and physical factors including: our ability to predict future global anthropogenic emissions of [greenhouse gases] and aerosols; the fate of these emissions once they enter the atmosphere (e.g., what percentage are absorbed by vegetation or are taken up by the oceans); the impact of those emissions that remain in the atmosphere on the radiative properties of the atmosphere; changes in critically important climate feedbacks (e.g., changes in cloud cover and ocean circulation); changes in temperature characteristics (e.g., average temperatures, shifts in daytime and evening temperatures); changes in other climatic parameters (e.g., shifts in precipitation, storms); and ultimately the impact of such changes on human health and welfare (e.g., increases or decreases in agricultural productivity, human health

> impacts). The NRC noted, in particular, that "[t]he understanding of the relationships between weather/climate and human health is in its infancy and therefore the health consequences of climate change are poorly understood" (p. 20). Substantial scientific uncertainties limit our ability to assess each of these factors and to separate out those changes resulting from natural variability from those that are directly the result of increases in anthropogenic [greenhouse gases].

Id. at A83-A84.

In short, given the evidence of scientific uncertainty described in the information before the Agency, EPA had, and articulated, a rational basis for denying the petition for rulemaking. Nothing more was required.

While focusing on uncertainty in the scientific evidence, EPA also noted additional policy reasons that reinforced its conclusion that it was appropriate to decline to undertake rulemaking. *Id.* at A82-A92. Petitioners argue that EPA may not consider policy reasons under section 202(a)(1) of the CAA at all and that consideration of these reasons here "taints EPA's entire decision." Pet. Br. 41. Petitioners are incorrect. Applying settled principles under the CAA and the APA, the D.C. Circuit properly rejected petitioners' objection because "Congress does not require the Administrator to exercise his discretion solely on the basis of his assessment of scientific evidence." Pet. App. A13 (citing *Ethyl*, 541 F.2d at 20); see *id.* at A15 ("as we have held, a reviewing court 'will uphold agency conclusions based on policy judgments' 'when an agency must resolve issues "on the frontiers of scientific knowledge"'") (quoting *Environmental Def. Fund* v. *EPA*, 598 F.2d 62, 82 (D.C. Cir. 1978)); *Ethyl*, 541 F.2d at 26 ("the [CAA] accords the regulator flexibility to assess risks and make essentially legislative policy judgments"); cf.

WWHT, 656 F.2d at 817 ("The agency's determination is essentially a legislative one, and the reviewing court should do no more than assure itself that the agency acted in a manner calculated to negate the dangers of arbitrariness and irrationality.") (citation and internal quotation marks omitted); *NRDC* v. *SEC*, 606 F.2d at 1046 ("An agency's discretionary decision *not* to regulate a given activity is inevitably based, in large measure, on factors not inherently susceptible to judicial resolution . . . .") (emphasis in original).

Moreover, petitioners ignore a critically important aspect of agency discretion central to this case: Under the CAA and basic administrative law principles, EPA has discretion regarding the *timing* of initiation of any rulemaking under section 202(a)(1). See, *e.g.*, *NRDC* v. *SEC*, 606 F.2d at 1046 ("[E]ven if an agency considers a particular problem worthy of regulation, it may determine for reasons lying within its special expertise that the time for action has not yet arrived."). Unlike numerous provisions in the Act, including other provisions within section 202, see, *e.g.*, CAA § 202(b)(2), 42 U.S.C. 7521(b)(2) (directing EPA to act "within 180 days after November 15, 1990"), section 202(a)(1) imposes no deadline for EPA action. By using such limiting language, Congress cabins—where it intends to cabin—Agency discretion regarding the timing of regulation. No such limiting language appears in section 202(a)(1).

Congress likewise knows how to constrain, through imposition of specific deadlines, EPA's discretion under the Act to decide the timing of decisions *whether it is appropriate to regulate* consistent with substantive statutory criteria. For example, section 109(d) of the Act requires EPA, by December 31, 1980, and every five years thereafter, to "promulgate such new [ambient air quality] standards as may be appropriate" in accordance with other, referenced provisions of the Act. 42 U.S.C. 7409(d); see generally *Environmental Def.*

Fund v. *Thomas*, 870 F.2d 892 (2d Cir. 1989). Congress knows, too, how to require EPA to begin (and to conclude) rulemaking by specific dates. For example, section 202(i)(3)(A), 42 U.S.C. 7521(i)(3)(A), provides that, based on a study and report mandated by section 202(i)(1) and (2), 42 U.S.C. 7521(i)(1), (2), EPA "shall determine, by rule, within 3 calendar years after the report is submitted to Congress, but not later than December 31, 1999," whether (i) a need exists for "further reductions in emissions" of specified pollutants, (ii) "the technology for meeting more stringent emission standards will be available," and (iii) "obtaining further reductions in emissions from such vehicles will be needed and cost effective." The report must be submitted to Congress "no later than June 1, 1997," and the "rulemaking . . . *shall commence within 3 months after submission of the report* to Congress." 42 U.S.C. 7521(i)(2)(B), (3)(A) (emphasis added). In stark contrast, nothing in section 202(a)(1) constrains EPA's discretion to determine when it is appropriate to commence any rulemaking that may be warranted.[15]

Here, EPA determined that it was important to continue a policy of "reducing scientific uncertainties" through additional research, Pet. App. A82, to allow the government to "answer questions about the causes, extent, timing and effects of global climate change that are critical to the formulation of an effective, efficient long-term policy," *id.* at A67. Particularly given the uncertain state of the scientific evidence regarding global climate change and its potential ef-

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[15] Cf. *Sierra Club* v. *Thomas*, 828 F.2d 783, 798 (D.C. Cir. 1987) (EPA's decisions whether to regulate under the Act "often involve[] complex scientific, technological, and policy questions"; thus, absent clear-cut statutory constraints on the timing of those decisions, "EPA must be afforded the amount of time necessary to analyze such questions so that it can reach considered results in a final rulemaking that will not be arbitrary and capricious or an abuse of discretion.").

fects that EPA had before it when it considered the rulemaking petition, the Agency was justified in deciding not to institute rulemaking. EPA did not abuse its broad discretion as to timing by deciding in 2003 that—regardless of whether further resolution of scientific questions might make rulemaking justified in the future—rulemaking would not be appropriate based on the information available to the Agency, and given the circumstances existing, at that time. Consistent with the CAA and with established principles of administrative law, the D.C. Circuit properly declined to disturb EPA's decision.

III. EPA Lacks Authority Under CAA Section 202(a)(1) To Regulate Greenhouse Gas Emissions To Address Global Climate Change.

"[E]mploying traditional tools of statutory construction," this Court should affirm EPA's determination that the CAA does not authorize it to regulate greenhouse gas emissions from new motor vehicles under CAA section 202(a)(1) to address global climate change. *Chevron* v. *NRDC*, 467 U.S. 837, 842-43 & n.9 (1984); see also *Brown & Williamson*, 529 U.S. at 132-33. The traditional tools of statutory construction include a statute's text, its overall structure, and its legislative history. See, *e.g.*, *Whitman* v. *American Trucking Ass'ns*, 531 U.S. 457, 466 (2001) ("Words that can have more than one meaning are given content . . . by their surroundings.") (citing *Brown & Williamson*, 529 U.S. at 132-33; *Jones* v. *United States*, 527 U.S. 373, 389 (1999)); *King* v. *St. Vincent's Hosp.*, 502 U.S. 215, 221 (1991) (statutes must be interpreted and understood as a whole "since the meaning of statutory language, plain or not, depends on context"); *Train* v. *Colorado PIRG*, 426 U.S. 1, 10 (1976) ("When aid to construction of the meaning of words, as used in the statute, is available, there certainly can be no rule of law which forbids its use, however clear the words may ap-

pear on superficial examination.") (quotations omitted). Reading the CAA as a whole, and reading relevant individual provisions in the context of the entire statute and its legislative history, leads to the conclusion EPA reached on this issue. At a minimum, that conclusion does not conflict with the CAA and reflects a permissible interpretation of the Act.

First, where the Act specifically mentions greenhouse gases or global climate change, it expressly clarifies the relevant provision's *nonregulatory* nature. In section 103(g), 42 U.S.C. 7403(g), which refers to "carbon dioxide," Congress stated: "Nothing in this subsection shall be construed to authorize the imposition on any person of air pollution control requirements." Indeed, the word "nonregulatory" appears six times in section 103(g). *Id.* Similarly, section 602(e) of the Act, 42 U.S.C. 7671a(e), directs EPA to publish "the global warming potential" of each substance listed under that subsection. The Act specifically states, however, that this directive "shall not be construed to be the basis of any additional regulation under this [Act]."[16] See Pet. App. A70-A71 (discussing sections 103(g) and 602(e) and pertinent legislative history).

Petitioners unsuccessfully try to explain away these expressions of congressional intent barring any construction of the Act's references to greenhouse gases and global climate change as authorizing regulation. Petitioners say, for example, that "[n]othing in these provisions expressly or impliedly removes the authority granted by section 202(a)(1)." Pet. Br. 22. That argument is circular and illogical: it assumes peti-

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[16] Section 821 of Public Law No. 101-549, to which petitioners refer, Pet. Br. 17 & n.9, directs EPA to issue rules for electric utilities to monitor and report their power plants' CO_2 emissions annually so that EPA can make the aggregate data "available to the public." 42 U.S.C. 7651k Note. That section, which is not part of the CAA, does not authorize regulation of emissions for global climate change or any other purpose.

tioners' premise that section 202(a)(1) provides the authority they claim it does; and, if accepted, it would perversely preclude the Court from learning anything of congressional intent from CAA provisions that—unlike section 202(a)(1)—actually *refer* to greenhouse gases. Petitioners fail to explain why, if the Act provides the broad grant of regulatory authority over greenhouse gases they claim it does, Congress would be concerned to specify that the Act's language referring to those gases must *not* be construed to provide any such authority. At the very least, it plainly was not unreasonable for EPA to read this statutory language as signifying congressional intent to withhold regulatory authority over greenhouse gas emissions to address global climate change.

Second, as EPA explained in denying the rulemaking petition, "the key statutory mechanism for controlling pervasive 'air pollutants'—establishing and implementing national ambient air quality standards under sections 108, 109, and 110—is unworkable for addressing an issue whose causes and effects are global in nature." Pet. App. A64; see *id.* at A72-A74. This point is addressed in detail in the Brief for the Respondent States of Michigan, North Dakota, Utah, South Dakota, Alaska, Kansas, Nebraska, Texas, and Ohio.

Third, as EPA also explained, *id.* at A71-A72, when Congress addressed a global atmospheric phenomenon with international ramifications in the CAA—depletion of the stratospheric ozone layer—it did so specifically in provisions tailored expressly for that problem. In 1990, Congress enacted a separate Title VI of the CAA, 42 U.S.C. 7671-7671q, to address the issue, which "incorporated [the] terms" of the Montreal Protocol on Substances that Deplete the Ozone Layer. *NRDC* v. *EPA*, No. 04-1438, 2006 WL 2472144, at *1 (D.C. Cir. Aug. 29, 2006). Before 1990, Congress also addressed stratospheric ozone depletion under a discrete part of the statute (part B of Title I), 42 U.S.C. 7450-7459 (1988),

which, like the later-enacted Title VI, recognized the global nature of the problem and provided for international coordination. See 42 U.S.C. 7456 (1988) (directing the President to "enter into cooperative research," "negotiate multilateral treaties, conventions, resolutions, or other agreements," and "formulate, present, or support proposals at the United Nations and other appropriate international forums"). Given how Congress treated the international issue of stratospheric ozone protection, it is difficult to believe it would have chosen to authorize EPA to address a similar global issue through the general definitional provisions, discussed *infra*, on which petitioners rely.

Fourth, summarizing a series of nonregulatory statutes that Congress enacted beginning in 1978 and that "specifically address[] global climate change," EPA observed that Congress, at the time of the 1990 Amendments to the CAA, "was awaiting further information before deciding *itself* whether regulation to address global climate change is warranted and, if so, what form it should take." Pet. App. A74-A75 (emphasis in original). Post-1990 congressional actions, EPA further observed, reinforced the conclusion that the CAA could not be interpreted to delegate to EPA authority to impose such regulation "in the absence of any direct or even indirect indication of congressional intent to provide such authority." *Id.* at A75-A76.

As EPA noted, the legislative history of the 1990 Amendments to the CAA provides further support for EPA's determination. In considering those amendments, Congress debated a committee-approved provision imposing limits on carbon dioxide emissions from motor vehicles. Ultimately, Congress decided *not* to include this provision in the Act. But Congress did not reject that provision because members believed the Act *already* authorized greenhouse gas emission limits for motor vehicles. To the contrary, senators' remarks

reveal a shared understanding that rejection of that and similar proposed measures meant there would be no basis in law for such regulation—that, to be authorized, any such regulation required new legislation.

Thus, for example, Senator Lieberman rued the "elimination" of the proposed CO_2 emission limits for motor vehicles without approval of any substitute measure. 136 Cong. Rec. 3730-31 (1990), *reprinted in* 4 Senate Comm. on Env't & Pub. Works, 103d Cong., Legislative History of the Clean Air Act Amendments of 1990, at 5407-10 (1993) ("Legis. Hist."). Senator Baucus, the legislation's floor manager, said that "[a]ny amendment" directing EPA to promulgate CO_2 standards for "tailpipe emissions . . . would be a deal-breaker," *id.* at 3894, *reprinted in* Legis. Hist. at 5492, but that a transportation planning amendment offered by Senator Gore would be "a good start" to address "global warming," emphasizing that "[w]e must start somewhere, and this is a good beginning." *Ibid.* There would have been no need for Congress to "start somewhere" if EPA already had received from it the delegation of regulatory authority petitioners claim it did.

Along these lines, Senator Gore, in discussing his transportation planning amendment—an amendment the House-Senate conference committee ultimately rejected—said it was "unimaginable that this body would take up a Clean Air Act and revisit this question [of global climate change] as extensively as we are doing without grappling at least in some way with the problem of CO_2 emissions." *Id.* at 3893, *reprinted in* Legis. Hist. at 5488-89. If EPA already had authority in the CAA, congressional advocates of regulation would not have emphasized Congress's need to "grappl[e] at least in some way" with regulatory control of greenhouse gas emissions. And these congressional advocates expressed no view that EPA had, either under the pre-existing Act, as petitioners

claim, or under the Act as it was being amended, any authority to adopt greenhouse gas emission limits for new motor vehicles or any other sources.

Without addressing these specific statements regarding congressional intent, petitioners cite *United States* v. *Craft*, 535 U.S. 274 (2002), for the general proposition that "'[c]ongressional inaction lacks persuasive significance because several equally tenable inferences may be drawn from such inaction, including the inference that the existing legislation already incorporated the offered change.'" Pet. Br. 21 (quoting *Craft*, 535 U.S. at 287). *Craft*, however, is readily distinguished. It involved a rejected legislative proposal that would have permitted tax liens on certain property. In nevertheless upholding such a lien, the Court noted that failure of a measure could support several reasonable inferences, including that existing statutory law already incorporated the offered change. *Craft*, 535 U.S. at 287. The Court's opinion examined legislative history showing that Congress rejected the failed tax measure as unnecessary because the measure was viewed as "nothing more than a 'clarification' of existing law" and as "'superfluous'" by the respective chambers. *Id.* (citations omitted). In contrast, the legislative history discussed above shows that congressional advocates of new motor vehicle greenhouse gas emission limits recognized that the failure to enact the proposed *legislative amendments* to effect such control would mean the Act would provide no authority for "grappling . . . in some way with the problem of CO_2 emissions"—a conclusion wholly at odds with the availability of pre-existing regulatory authority that petitioners claim the Act provided.[17] 136 Cong. Rec. 3893 (1990), *reprinted in* Legis. Hist. at 5488-89.

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[17] Cf. *Arkansas Elec. Coop. Corp.* v. *Arkansas Pub. Serv. Comm'n*, 461 U.S. 375, 384 (1983) ("a federal decision to forgo regulation in a given

Petitioners claim, however, that EPA's interpretation of the Act is barred by two provisions that do not refer specifically to greenhouse gases: the general definition of "air pollutant," 42 U.S.C. 7602(g), and a provision listing "effects on welfare," *id.* 7602(h). Under petitioners' interpretation of the statute, Congress, by enacting these two provisions as part of the CAA's "Definitions" section (*id.* 7602), established authority for a sweeping global climate change regulatory program. EPA reasonably concluded instead that the broader statutory context and legislative history refute petitioners' view. See *Whitman*, 531 U.S. at 468 (Congress does not "hide elephants in mouseholes").

Section 302(g) states that "'air pollutant' means any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air." 42 U.S.C. 7602(g). If accepted, petitioners' argument in effect would revise section 302(g) by writing the qualifying words "air pollutant agent" out of the CAA, making *any* substance that enters the ambient air an "air pollutant" potentially subject to CAA regulation. Pet. Br. 12-14; see Pet. App. A78-A79 & n.3.[18]

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area may imply an authoritative federal determination that the area is best left *un*regulated") (emphasis in original).

[18] Petitioners cite methane emission standards for landfills as an example of supposed Agency inconsistency with regard to "air pollutant." Pet. Br. 34. The reasons EPA addressed methane—*e.g.*, its explosive characteristics—have nothing to do with global warming, and EPA identified any global warming benefits as "ancillary." 61 Fed. Reg. 9905, 9917 (1996). Petitioners quote an obvious misstatement in which EPA says those landfill standards regulate CO_2 in addition to methane, Pet. Br. 34 n.5 (quoting 63 Fed. Reg. 6426, 6454 (1998)). The regulated substances unambiguously do *not* include CO_2, as EPA made clear in promulgating the standards. See 61 Fed. Reg. at 9905 (identifying non-methane organic compounds (which did not include CO_2) and methane as the "emissions of concern"). Petitioners also cite selected notices under EPA's Signifi-

In the face of the rule that statutes must, if possible, be construed to give every word effect, *United States* v. *Nordic Village, Inc.*, 503 U.S. 30, 36 (1992), petitioners strain to supply a meaning for Congress's limiting phrase, "air pollution agent," that fits their theory of the Act. Petitioners' idea is that this phrase is not limiting at all but expansive, *i.e.*, that Congress meant it to encompass things *in addition to* "substance[s] or matter"—things, they hypothesize, that "have no mass," such as "heat" and "ionizing radiation." Pet. Br. 14. Yet they offer no authority for this novel interpretation.

In any event, petitioners' argument is beside the point. That argument in fact rests on their wholly improbable premise that section 302(g) *must* be read to define as an "air pollution agent" *any* substance or matter that enters the ambient air. *Id.* at 13-14. In other words, petitioners' position is that EPA had no discretion to determine that *some* substances that enter the ambient air simply do not fit the common understanding of "air pollution agent," see Pet. App. A79 n.3, as meaning something that—unlike CO_2—causes the air that people breathe to become dirty or impure. Under petitioners'

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cant New Alternatives Policy, which addresses stratospheric ozone depletion. Pet. Br. 33. That EPA, under this policy, considers global warming potential as "*a factor* in assessing the *overall* risk" of a possible substitute chemical, see 59 Fed. Reg. 13,044, 13,049 (1994) (emphases added), does not mean it regulates solely or primarily to address global warming; and a single instance in which EPA may have deviated from its policy, see Pet. Br. 33 (citing 64 Fed. Reg. 10,374, 10,375 (1999)), cannot expand Agency authority. Finally, the existence of requirements for monitoring CO_2 emissions from nonroad equipment under CAA section 103(a), 42 U.S.C. 7403(a), 69 Fed. Reg. 12,151 (2004), is not only unhelpful to petitioners—because, as they concede, Pet. Br. 33, section 103(a) is a research, not a regulatory, provision—but also contrary to their argument because EPA in the cited notice *distinguishes* CO_2 from "air pollutants," 69 Fed. Reg. at 12,151 ("Emissions instrumentation will measure carbon dioxide (CO_2) *and* several air pollutants.") (emphasis added).

reading, EPA necessarily has authority under the CAA to regulate *anything* that enters the ambient air and that may result in "[a]dverse effects on public health and welfare." Pet. Br. 15. This is implausible at best. Bullets fired from a handgun enter the ambient air and indisputably are physical "substance[s]" that may endanger public health or welfare, but the Clean Air Act has never been thought to authorize EPA to impose gun controls. Contrary to petitioners' attempt to expand definitional provisions to the breaking point to create vast new regulatory programs,[19] EPA is *not* compelled to conclude that those provisions authorize regulation of anything that enters the ambient air and that may pose risks to health or welfare, irrespective of whether it, in common parlance, "pollutes" the air.

Petitioners ignore that the CAA's core provisions to which section 302(g) relates are structured to address pollution in the ambient air, not global climatological phenomena. This structure is reflected both in the text of section 302(g), which provides that an "air pollutant" is an air pollution agent that is emitted into or otherwise enters "the ambient air," and in the Act's operative regulatory provisions. Congress added the phrase "ambient air" to section 302(g) in 1977, Pub. L. No. 95-95, § 301(c), 91 Stat. 770, after EPA and this Court had defined "ambient air," respectively, as "that portion of the atmosphere, external to buildings, *to which the general public has access*," 40 C.F.R. 50.1(e) (promulgated at 36 Fed. Reg. 22,369, 22,384 (1971)) (emphasis added), and as "the statute's term for the outdoor air *used by the general public*," *Train* v. *NRDC*, 421 U.S. 60, 65 (1975) (emphasis added)—as opposed to the entirety of Earth's atmosphere. By limiting "air pollutants" to air pollution agents that enter

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[19] Cf. *Brown & Williamson*, 529 U.S. at 125-26 (Food, Drug, and Cosmetic Act definitions did not provide FDA with authority to regulate tobacco products).

the ambient air, *i.e.*, the air at or near ground level that the general public breathes, section 302(g) provides no basis to regulate substances due to their presence in the upper atmosphere—a determinative fact in the global climate change context.

Carbon dioxide, "the most pervasive of anthropogenic [greenhouse gases]," Pet. App. A73, "is fairly consistent in concentration throughout the *world's* atmosphere up to approximately the lower stratosphere," *id.* at A72 (emphasis in original). It is carbon dioxide's entry into and presence in the global atmosphere, far above the "ambient," ground-level air that people breathe, that is believed to affect global climate. See IPCC, *Climate Change: The IPCC Scientific Assessment*, at 49 (1990) ("it is the change in the radiative flux at the *tropopause* [the boundary between the troposphere and the stratosphere], and *not the surface*, that expresses the radiative forcing of [the] climate system") (first emphasis in original; second emphasis added). Petitioners do not claim that global climate change results from the presence of greenhouse gases in the ambient air. Rather, they claim it is the accumulation of these gases in the global atmosphere that causes global warming. Pet. Br. 4 (quoting NRC Report, J.A. 151). Construing the CAA to authorize regulation of substances as "air pollutants" due to their presence in the general global atmosphere is inconsistent with the Act's use of the qualifier "ambient air."

Operative provisions in the CAA addressing regulation of mobile and stationary source emissions also reflect congressional intent to limit the scope of regulatory authority over substances to address their presence in the "*ambient* air." The national ambient air quality standard program, which this Court described as the "heart" of the CAA, *Union Electric Co.* v. *EPA*, 427 U.S. 246, 249 (1976), applies to an air pollutant with respect to its "presence . . . *in the ambient*

air"—not the global atmosphere generally—as a result of mobile or stationary sources. 42 U.S.C. 7408(a)(1)(B), (2) (emphasis added); see also *id.* 7521(i)(2)(A) (directing EPA to examine the need for further motor vehicle emission reductions "to attain or maintain" national ambient air quality standards). Thus, the "criteria" on which EPA bases national ambient air quality standards are "effects . . . from the presence of [the] pollutant *in the ambient air*." *Id.* 7408(a)(2) (emphasis added); see also *id.* 7409(b)(1) (directing establishment of "primary" national ambient air quality standards). And the CAA directs EPA to set "secondary" national ambient air quality standards at the level "requisite to protect the public welfare from . . . adverse effects *associated with the presence of [the] air pollutant in the ambient air*"—not the atmosphere generally. *Id.* 7409(b)(2) (emphasis added). These provisions contradict petitioners' view that the CAA authorizes regulation of greenhouse gases due to their effects in the global atmosphere.

Finally, petitioners assert that section 302(h), *id.* 7602(h), which lists "climate" among many "effects on welfare," creates authority to regulate global climate phenomena. Pet. Br. 15. This definitional provision, however, sets out no delegation of regulatory authority at all; it merely describes kinds of effects to be considered when regulatory authority otherwise exists, and is exercised, under the CAA's operative provisions. Moreover, given section 302(g)'s limitation of "air pollutant" to "air pollution agent[s]" in the "ambient air," as discussed above, it was at the very least reasonable for EPA to conclude that the fact that the word "climate" appears in section 302(h) does not create authority to regulate motor vehicles' emissions of greenhouse gases due to effects those gases may have as a result of their presence in the global atmosphere *outside* the ambient air. *Brown & Williamson*, 529 U.S. at 132 ("The meaning—or ambiguity—of certain words

or phrases may only become evident when placed in [statutory] context.").

For all of these reasons, EPA reasonably and lawfully concluded that it lacks authority to regulate greenhouse gas emissions to address global climate change under section 202(a)(1) of the CAA. EPA's interpretation fully comports with the Act and is entitled to deference. *Chevron*, 467 U.S. at 842-45.

CONCLUSION

The Court should dismiss this case for lack of standing or, in the alternative, should affirm the court of appeals' judgment denying the petitions for review.

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In the Supreme Court of the United States

COMMONWEALTH OF MASSACHUSETTS, ET AL., *Petitioners*

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL., *Respondents*

ON WRIT OF CERTIORARI TO
THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

REPLY

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ARGUMENT

A common theme runs throughout respondents' arguments on standing, statutory authority, and agency discretion: a judicially restrained approach to this case, respondents suggest, implies a ruling in their favor. This is not so. On standing, respondents ask this Court to make factual judgments by recasting them as legal determinations; these determinations would do violence to this Court's Article III jurisprudence. On statutory authority, respondents encourage the Court to focus not on the statutory text at issue here, but instead on the political and economic consequences of a ruling in petitioners' favor. Making interpretive principles turn, not on statutory text, but on the Court's own view of the political and economic ramifications of a case is the very antithesis of judicial restraint. Last, on agency discretion, respondents ask for a new and lenient interpretive rule for cases involving agencies' refusals to issue rules. But nothing in the background principles of administrative law that respondents invoke allows an agency to turn its back on a statute that the agency does not, for its own policy reasons, want to follow.

I. Petitioners have standing.

In the court of appeals, petitioners submitted forty-three detailed affidavits establishing their standing. No party responded to, let alone refuted, those declarations. By a vote of 2-1, the court declined to dismiss the petition for review on grounds of standing. This Court declined to take up the issue in granting review. Nonetheless, respondents make standing a centerpiece of their briefs. Accepting their arguments would rework and distort the role of standing. Respondents' arguments should be rejected.

A. Petitioners have demonstrated injury in fact.

In their affidavits, petitioners described in detail how emissions of greenhouse gases have already caused and are causing States, cities, and individuals injuries that unquestionably satisfy the "injury in fact" requirement of Article III.[1] That is no doubt why EPA has not contested injury in fact in these proceedings.

Rising temperatures have injured petitioners in the following specific and concrete ways: coastal States have lost and are losing land to rising sea levels (D.C. Cir. Jt. App. 666; Stdg. App. 179, 194, 196, 208, 212, 216, 217, 234, 266, 304-305); ground-level ozone (smog) is exacerbated by rising temperatures, leading to adverse health effects and costly efforts on the part of States to address the problem (Stdg. App. 3-5, 68); glaciers are melting, causing distinct injuries to particular individuals (JA 190; Stdg. App. 182, 190, 212). These injuries span a broad range, from the Commonwealth of Massachusetts losing coastal land (Stdg. App. 196) to Frank Keim no longer being able to hike on the Alaskan glaciers he used to enjoy (Stdg. App. 190). The former injury, the loss of sovereign territory, has been a cognizable Article III injury since the founding of the republic (*see New York v. Connecticut*, 4 U.S. 1, 4 (1799)); the latter is exactly the kind of injury held sufficient to support federal jurisdiction in *Friends of the Earth v. Laidlaw Envtl. Services (TOC)*, 528 U.S. 167 (2000).

Petitioners' injuries are not "'some day'" injuries, as respondents contend (Utility Air Regulatory Group (UARG) Br. 13, quoting *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 564 n.2 (1992)); they are injuries in the here and now. Nor do petitioners' declarations describe mere "generalized grievances" (Alliance of Automobile Manufacturers (AAM)

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[1] Petitioners' declarations are collected in a "standing appendix" which has been lodged with the Court as part of the appeals court record ("Stdg. App."). For convenience, additional copies of this document have also been lodged with the Clerk.

Br. 12); they attest to harms being visited—right now—upon particular individuals and particular States. The fact that the interests asserted here "are shared by the many rather than the few does not make them less deserving of legal protection through the judicial process." *Sierra Club v. Morton*, 405 U.S. 727, 734 (1972); *see also FEC v. Akins*, 524 U.S. 11, 24-25 (1998).

Industry respondents assert that petitioners' case rests on the "central allegation" that substantial harm will not occur until the year 2100. AAM Br. 9-10; *see also* UARG Br. 12 & n.4. This characterization is incorrect; it ignores petitioners' detailed statements of current harm.

The record is also filled with evidence of continuing harm. *See, e.g.*, JA 229, 233-235; Stdg. App. 5-6, 43-48, 170-174, 175-180, 234-236. Each of the injuries described above is not only continuing, but will worsen with rising concentrations of greenhouse gases. Stdg. App. 182, 207-209, 211, 213-219, 234-236. Because each of these injuries is present today and will only become more grave, respondents' arguments that these injuries do not satisfy Article III are wrong.

Respondents ask this Court to hold that temporal distance alone warrants denial of standing. Respondent UARG suggests, based on *McConnell v. FEC*, 540 U.S. 93 (2003), that standing cannot exist where an injury will not occur for five years. UARG Br. 13. If this were true, no one would have standing to object to illegal exposure to carcinogens, as most cancers have latency periods far longer than the five-year interval involved in *McConnell*. Instead, *McConnell* stands only for the common-sense rule that temporal distance can vitiate standing where the passage of time aggravates, as opposed to reduces, uncertainty about injury; this is, indeed, the way the case was argued to the Court. Brief of Respondent FEC at 129-30, *McConnell v. FEC*, 540 U.S. 93 (No. 02-1676).

Nor does *Whitmore v. Arkansas*, 495 U.S. 149 (1990), relied upon by the automobile manufacturers (AAM Br. 10-11), hold that temporal distance alone undoes standing. *Whitmore* held that the plaintiff had no standing to object to the execution of a fellow inmate, where the plaintiff's claim of injury assumed

that he would be granted habeas relief; that he would be retried, convicted, and sentenced to death; and that a comparison of his crime (which involved stabbing his victim 10 times, cutting her throat, and carving an "X" on the side of her face) to his fellow inmate's would show that his capital sentence was arbitrary given the comparative mildness of his crime. 495 U.S. at 156-157. To recall the facts of *Whitmore* is to refute respondents' extravagant reading of it; it was not temporal distance, but an implausible chain of causation, which led to the denial of standing there. That situation is precisely the opposite of what is present here, namely, one in which the magnitude and certainty of injury only *increase* as time passes.

Here, the continuing harms petitioners describe are the result of physics and chemistry, not the unpredictable workings of the electoral or criminal system. "The injury is of course probabilistic, but even a small probability of injury is sufficient to create a case or controversy—to take a suit out of the category of the hypothetical . . . ." *Elk Grove Village v. Evans*, 997 F.2d 328, 329 (7th Cir. 1993) (Posner, J.). Nothing in the record refutes petitioners' claims of continuing harm. To say, as *amici* Robert H. Bork, *et al.* do, that Massachusetts' claim of injury based on the loss of its land to the rising seas is "entirely speculative" unless one knows more about economics (Bork Br. 12 & n. 9), is like saying that "a homeowner whose house is destroyed by arson has not been injured by the arsonist, if the house was adequately insured." *Midwest ISO Transmission Owners v. FERC*, 373 F.3d 1361, 1367 (D.C. Cir. 2004) (Roberts, J.).

Respondents refer dismissively to petitioners' "reams of untested declarations," calling them "speculative." AAM Br. 8-9. While petitioners do bear the burden of proof on standing, the factual questions underlying standing are addressed in the same manner as other factual issues in litigation. *Lujan*, 504 U.S. at 561. Thus respondents were required to meet petitioners' proof with evidence, not adjectives. Nothing in the record refutes the conclusion, supported in petitioners'

affidavits, that emissions of greenhouse gases have harmed and will continue to harm petitioners.[2]

If there *were* evidence in the record creating a genuine factual controversy about petitioners' declarations of current and continuing harm, further factfinding would be necessary.[3] Respondents do not ask for this result. They apparently would have this Court rule, by judicial fiat, that climate change has not harmed, is not harming, and will not harm petitioners. Respondents' preferred disposition of the case is thick with irony: invoking a doctrine grounded in judicial restraint, respondents in effect are asking this Court to make the very scientific finding that they assert the accountable and expert agency charged with environmental protection need not, and indeed may not, make. Respondents' position stands standing on its head.

B. Petitioners have demonstrated that their injury is fairly traceable to EPA's decision.

U.S. motor vehicles are responsible for 23 percent of this country's carbon dioxide emissions and some 6 percent of the entire world's. Stdg. App. 232. U.S. motor vehicles and power plants together are responsible for more than 60 percent of U.S. emissions of carbon dioxide. Pet. Br. 39 n.28. EPA has

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[2] The 2001 report by the National Research Council entitled *Climate Change Science*, on which EPA relied in emphasizing the uncertainties surrounding climate change, confirms petitioners' claims of harm. *See* Brief of *Amici Curiae* Climate Scientists David Battisti *et al.*

[3] In a proceeding like this one, in which a petition for review is filed directly in the court of appeals, creating a procedure for resolving a factual dispute could be tricky, as Judge Tatel observed below. Pet. App. A30. Nevertheless, this Court has made clear that factual questions underlying standing are to be decided like other factual questions, even proceeding to trial if necessary. *See, e.g., Lujan*, 504 U.S. at 561, quoting *Gladstone, Realtors v. Vill. of Bellwood*, 441 U.S. 91, 115 n.31 (1979).

cited the conclusion it reached in this case in declining to regulate greenhouse gases from power plants.[4] *Ibid.* Despite these impressive percentages,[5] EPA argues that respondents have not shown that their injury is fairly traceable to EPA's decision because these emissions do not "materially affect the overall extent of global climate change." U.S. Br. 13-14. EPA is wrong on both the facts and the law.

It is uncontested that emissions of greenhouse gases contribute to the harms petitioners have described. Moreover, greenhouse gases, once emitted, become distributed throughout the earth's lower atmosphere. A ton of carbon dioxide emitted by an automobile has the same climate-changing effect as a ton of carbon dioxide emitted by any other source. If EPA regulated greenhouse gases, the carbon dioxide emitted by motor vehicles would be reduced.[6] The harms suffered by petitioners are thus "fairly . . . trace[able]" to EPA's decision not to regulate greenhouse gases from motor vehicles. *Lujan*, 504 U.S. at 560, quoting *Simon v. E. Kentucky Welfare Rights Org.*, 426 U.S. 26, 41-42 (1976) (*EKWRO*). No intervening act of a third party separates the greenhouse gas

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[4] Conceding the link between its decision in this case and its refusal to regulate greenhouse gases from power plants, EPA joined the motion for a stay of a separate proceeding challenging its decision on power plants because the Court granted review here. CO_2 Litigation Group (CLG) Br. 30.

[5] EPA tries to minimize the effect of controlling emissions under section 202(a)(1) by noting that this provision applies only to *new* motor vehicles. U.S. Br. 13-14. Any rule applied to new vehicles would ultimately affect all vehicles: the U.S. automobile fleet turns over every 10-15 years. 60 Fed. Reg. 12459, 12472 (1995).

[6] Redressability is even clearer when one considers the linkage between EPA's decision on motor vehicles and its decision not to regulate greenhouse gas emissions from power plants (sources which together comprise over 60 percent of U.S. carbon dioxide emissions, Pet. Br. 39 n. 28)—a linkage the Solicitor General confirms in his brief to this Court. U.S. Br. 32.

emissions left unregulated by EPA's decision and the harm those emissions cause.

The Court's precedents make clear that its concern with ensuring that asserted injuries are fairly traceable to challenged actions is satisfied when the causal chain is as direct as it is here. In *Allen v. Wright*, 468 U.S. 737 (1984), the Court worried that recognizing standing where plaintiffs' injuries arose from "'the independent action of some third party not before the court'" would "pave the way generally for suits challenging, not specifically identifiable Government violations of law, but the particular programs agencies establish to carry out their legal obligations." *Id.* at 757 (quoting *EKWRO*, 426 U.S. at 42), 759; *see also DaimlerChrysler Corp. v. Cuno*, 126 S.Ct. 1854, 1864 (2006). Here, in contrast, petitioners challenge a "specifically identifiable Government violation[] of law" that results directly in the emission of more greenhouse gases than would be emitted if EPA had not declined to regulate greenhouse gases.

Respondents seek to avoid the straightforward result dictated by the Court's decisions by asking this Court to adopt a new constitutional rule of causation: in the Solicitor General's formulation, judicial review of EPA's decision not to regulate greenhouse gases from motor vehicles would be available only if these emissions "materially affect the overall extent of global climate change." U.S. Br. 14. This standard has no basis in Article III and would undo the Clean Air Act's causal framework.

"[S]tanding is gauged by the specific common-law, statutory or constitutional claims that a party presents. 'Typically, . . . the standing inquiry requires careful judicial examination of a complaint's allegations to ascertain whether the particular plaintiff is entitled to an adjudication *of the particular claims asserted.*'" *Int'l Primate Prot. League v. Adm'rs of Tulane Educ. Fund*, 500 U.S. 72, 77 (1991), quoting, with emphasis added, *Allen*, 468 U.S. at 752; *see also Lujan*, 504 U.S. at 580 (Kennedy, J., concurring in part and concurring in the

judgment) ("Congress has the power to . . . articulate chains of causation that will give rise to a case or controversy . . ."). Section 202(a)(1) of the Clean Air Act directs the Administrator of the EPA to regulate air pollutants emitted by new motor vehicles when the Administrator determines that they "cause, *or contribute to*, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. 7521(a)(1) (emphasis added). The same causal relationship triggers regulation under other provisions of the Act. *See, e.g.*, 42 U.S.C. 7411(b)(1)(A); 7545(c)(1); 7547(a)(1). These provisions reflect Congress's insistence that regulation proceed where a source contributes to, and is not solely responsible for, endangerment of public health or welfare—which is overwhelmingly the norm in pollution cases.

EPA, too, has recognized that effective air pollution control requires regulation of sources that, standing alone, cause a portion of a large-scale harm. With respect to ozone pollution, for example, the agency has observed:

> Each source's contribution is a small percentage of the overall problem; indeed, it is rare for emissions from even the largest single sources to exceed one percent of the inventory of ozone precursors even for a single metropolitan area. . . . [A]ttainment requires controls on numerous sources across a broad area.

63 Fed. Reg. 57356, 57375 (1998). EPA concluded that upwind States "contribute[d] significantly" to ozone nonattainment problems in downwind States within the meaning of section 110(a)(2)(D)(i)(I) of the Clean Air Act, even where their contributions to ozone pollution in the downwind States were on the order of one percent. *Id.* at 57391-93; *see also Michigan v. EPA*, 213 F.3d 663, 674 (D.C. Cir. 2000) (upholding EPA's approach).[7]

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[7] EPA also used a one-percent threshold in identifying significant contributions to nonattainment in its recent interstate air pollution trading rule. 70 Fed. Reg. 25162, 25175 (2005). Likewise, in

Respondents seek to quietly overturn Congress's decision to require control of sources that "contribute to" a pollution problem. Respondents argue that, as a matter of constitutional law, this Court cannot hear this case because regulation of U.S. motor vehicles—which, again, account for an impressive 23 percent of this country's carbon dioxide emissions and some 6 percent of the entire world's (Stdg. App. 232)—will not "materially affect the overall extent of global climate change." U.S. Br. 13-14; *see also* UARG Br. 14-15 (petitioners must show new motor vehicles "caused" global climate change). The Solicitor General does not define "materially affect." However, he must have in mind a standard stricter than the statutory "contributes to" standard; as noted, EPA has in the past found that sources "contribute *significantly* to"—not merely "contribute to"—a pollution problem when their contributions are on the order of one percent. By erecting a causal standard for standing that is stricter than the causal standard prescribed by the underlying statute, respondents would "raise the standing hurdle higher than the necessary showing for success on the merits . . . ." *Laidlaw*, 528 U.S. at 181. Yet "[t]he question of standing is different" from "the merits." *Ass'n of Data Processing Serv. Orgs. v. Camp*, 397 U.S. 150, 153 (1970).

The Solicitor General also cites no authority for the idea that a "material" effect is required for standing. There is none. In *Laidlaw*, for example, plaintiffs were not required to demonstrate that defendants' mercury discharges into the North Tyger River were responsible for some preordained percentage of plaintiffs' harm. *Laidlaw*, 528 U.S. at 182-184; *see also, e.g., Natural Res. Def. Council v. Watkins*, 954 F.2d 974, 980 (4th Cir. 1992) (standing established if defendant "*contributes* to the pollution" that affects the plaintiff); *Sierra Club v. Cedar Point Oil Co.*, 73 F.3d 546, 558 (5th Cir. 1996) (defendant's

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regulating mercury emissions from U.S. power plants, EPA noted that these emissions accounted for approximately one percent of the total global pool of mercury emissions. 70 Fed. Reg. 15994, 16028 (2005).

contribution to pollution suffices for traceability). Multiple causation is pervasive in the law (*see, e.g., Olympic Airways v. Husain*, 540 U.S. 644, 653 (2004)), and different statutory and common-law frameworks deal with it in different ways. The Court should reject respondents' invitation to create a new constitutional rule for such cases.

In any event, petitioners' declarations satisfy any sensible construction of the Solicitor General's new standard. Seen in its most favorable light, the Solicitor General's standard might be viewed as an effort to avoid federal jurisdiction over decisions with truly *de minimis* effects. As noted, U.S. motor vehicles are responsible for approximately 23 percent of this country's carbon dioxide emissions and 6 percent of the entire world's. Stdg. App. 232. In 1999, the U.S. transportation sector emitted almost half a billion metric tons of carbon dioxide (Stdg. App. 219); the emissions from this sector come mainly from automobiles (Stdg. App. 220). Half a billion metric tons of carbon dioxide cannot plausibly be viewed as *de minimis*.

C. Petitioners have demonstrated redressability.

Reversal of EPA's decision declining to regulate greenhouse gases from motor vehicles would make possible significant controls on sources responsible for some 60 percent of this country's carbon dioxide emissions—23 percent from motor vehicles and the rest from the power plants left unregulated by the same legal conclusion EPA reached here. Pet. Br. 39 n.28. Lower greenhouse gas emissions mean reduced harms from climate change. Stdg. App. 232-236. Petitioners' injuries are thus redressable by judicial action.

Here, too, respondents provide no factual rebuttal to petitioners' claims;[8] instead, they offer a new constitutional

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[8] EPA does briefly speculate about the possibility that other nations will "free ride" on any effort by the U.S. to reduce its greenhouse gas emissions (U.S. Br. 19), thus, presumably, somehow rendering U.S. regulatory efforts nugatory. But just as standing cannot be established based on speculation or conjecture, it also cannot be

test for redressability. Here, too, their argument should be rejected.

EPA asserts that petitioners' injury must be "materially alleviated" by a ruling in their favor. U.S. Br. 7; *see also* AAM Br. at 16 (lawsuit must lead to "significant reduction" in greenhouse gas concentrations). The government does not define what it means or cite any judicial precedent for its suggested standard. Congress has chosen to require regulation of mobile sources when they "contribute to" air pollution that endangers public health or welfare. As already discussed, the government's standard of materiality appears to be stricter than the Clean Air Act's causal standard. This Court should reject respondents' implicit invitation to smother the standard Congress chose with a stricter constitutional test.

In addition, there is no support in this Court's precedents for respondents' new constitutional test. On the contrary, this Court has held that "a plaintiff satisfies the redressability requirement when he shows that a favorable decision will relieve a discrete injury to himself. He need not show that a favorable decision will relieve his *every* injury." *Larson v. Valente*, 456 U.S. 228, 243 n. 15 (1982) (emphasis in original).

Acceptance of respondents' test would have far-reaching consequences. Incomplete redressability abounds in legal cases. Creditors often receive just pennies on the dollar in bankruptcy proceedings; plaintiffs in "pure" comparative fault regimes have received as little as one percent of their total damages; damage caps—such as the $75,000 cap of the Warsaw Convention—can limit plaintiffs' redress to a small fraction of their total harm. On respondents' theory, federal jurisdiction would not exist in these cases because the redress

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denied on this basis. *See Duke Power Co. v. Carolina Envtl. Study Group*, 438 U.S. 59, 78 (1978) ("Nothing in our prior cases requires a party seeking to invoke federal jurisdiction to negate the kind of speculative and hypothetical possibilities suggested in order to demonstrate the likely effectiveness of judicial relief.").

available is too small in proportion to the total harm.[9] And, on respondents' theory, even if Congress passed legislation saying, explicitly and precisely, that "EPA must regulate greenhouse gas emissions from motor vehicles," no one would have standing to challenge a failure by EPA to comply with this legislative directive.

Oddly—given their otherwise dire representations of the consequences of a ruling in favor of petitioners—respondents' arguments on redressability amount to a complaint that Congress *did not go far enough* in section 202 of the Clean Air Act. Congress's incremental, source-by-source approach to pollution control becomes, on respondents' theory, a basis for rejecting judicial review altogether. But this Court has "frequently said that the legislative authority, exerted within its proper field, need not embrace all the evils within its reach. The Constitution does not forbid 'cautious advance, step by step,' in dealing with the evils which are exhibited in activities within the range of legislative power." *NLRB v. Jones & Laughlin Steel Corp.*, 301 U.S. 1, 46 (1937), quoting *Carroll v. Greenwich Ins. Co.*, 199 U.S. 401, 411 (1905). Respondents' theory of redressability is in tension with this fundamental principle of judicial deference to legislative choices.

II. The Clean Air Act authorizes regulation of greenhouse gases from motor vehicles.

Section 202(a)(1) of the Clean Air Act directs the EPA to regulate "air pollutant[s]" from motor vehicles when, in the

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[9] Another of respondents' arguments would unsettle much of administrative law. Industry respondents assert that petitioners cannot show redressability because EPA might decide, on remand, not to regulate greenhouse gases. UARG Br. 19-20; AAM Br. 16-17. Scores of administrative law cases concern agency decisions in which the agencies enjoy some discretion. This Court has made clear that an injury caused by an agency decision is redressable by a judicial remand to the agency, even if the complainant might lose on remand. *See, e.g., Akins*, 524 U.S. at 25.

Administrator's judgment, they "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. 7521(a)(1). The Act defines "welfare" to include effects on "climate" and "weather." 42 U.S.C. 7602(h). Physical or chemical matter that is emitted into the ambient air is an "air pollutant" under the Act. 42 U.S.C. 7602(g). Greenhouse gases are physical and chemical matter emitted into the ambient air by motor vehicles. EPA thus has authority over these gases under section 202(a)(1) of the Act.

In concluding that it lacked authority to regulate greenhouse gases emitted by motor vehicles, EPA relied on unenacted legislation; legislation that was enacted subsequent to, and is fully compatible with, the provisions at issue here; and the supposed incompatibility of regulation of greenhouse gas emissions under section 202 with the Clean Air Act's programs addressing air quality standards and stratospheric ozone depletion and with the Energy Policy and Conservation Act's fuel efficiency program. Pet. App. A68-A80. Petitioners have rebutted each of these arguments. Pet. Br. 20-32. Respondents' submissions on these points add nothing to EPA's original arguments; we refer the Court to our opening brief on these issues.

Respondents also now attempt to bolster their extra-textual analysis of the relevant provisions of the Clean Air Act with arguments based on the language of these provisions; these arguments are unpersuasive. EPA's argument from text amounts to this: "air pollution agents" must have "independent meaning" beyond the items listed in section 302(g)'s "including" clause, and that independent meaning constrains interpretation of the phrase "any chemical, physical . . . substance or matter." Only those chemical or physical substances that are *also* "air pollution agents" are covered by the Act. U.S. Br. 34. EPA has, however, provided no interpretation of the phrase "air pollution agent" beyond saying that this term does not include greenhouse gases under

the Act's "regulatory provisions."[10] Pet. App. A78. This circular reasoning lies behind the Solicitor General's otherwise mysterious reference to "*cognizable* 'pollution.'" U.S. Br. 33 (emphasis added). The government's position appears to be that although greenhouse gases may indeed constitute "pollution," they are not—for the extra-textual reasons noted above—*cognizable* pollution under the Act. Nothing in the Act supports a distinction between "cognizable" and "non-cognizable" pollution.

Contrary to the Solicitor General's suggestion, petitioners' interpretation gives independent meaning to the phrase "air pollution agent" (Pet. Br. 14), and thus does not render this term "superfluous." U.S. Br. 34; *see also* UARG Br. 45; AAM Br. 23; CLG Br. 7.

Moreover, although petitioners have focused on the text following the "including" clause of section 302(g) because it so clearly captures the emissions at issue in this case, it is also beyond dispute that these emissions fall within the phrase "air pollution agents," *even if one looks only at that language and ignores the language of the "including" clause.*[11] This is true for several reasons.

First, focusing on carbon dioxide: carbon dioxide is specifically named as an "air pollutant" in section 103(g) of the Act. 42 U.S.C. 7403(g). EPA asks the Court to ignore this

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[10] The government's inattention to the statutory text is pointedly illustrated by its invention of *hypothetical* statutory text as a reason why *this* statutory text—the relevant provisions of the Clean Air Act—should be read in a particular way. U.S. Br. 34.

[11] Respondents' brusque treatment of the "including" clause, which helps define what the term "air pollution agents" means, ignores the teaching of this Court's decision in *Babbitt v. Sweet Home Chapter of Cmtys. for a Greater Oregon*, 515 U.S. 687, 697 n.10 (1995) ("Congress explicitly defined the operative term" (there, "take"; here, "air pollution agent"), "thereby obviating the need for us to probe its meaning as we must probe the meaning of the undefined subsidiary term" (there, "harm"; here, "any physical, chemical . . . substance or matter")).

unambiguous textual inclusion of carbon dioxide in a list of "air pollutants" based on its theory that the Act draws a bright line between "regulatory" and "nonregulatory" provisions. U.S. Br. 34-35. EPA's rigid distinction between "regulatory" and "nonregulatory" provisions has no support in the text or structure of the Act. Pet. Br. 16-17.

In addition, EPA itself has acknowledged that carbon dioxide exacerbates ozone pollution by exacerbating the conditions that create this pollution. *See* 66 Fed. Reg. 18245, 18246 (2001). Thus carbon dioxide is an "agent" of ozone "air pollution." Carbon dioxide helps to bring about air pollution in the form of ozone; this is precisely what an "agent"—of "air pollution"—does.

As for the other substances at issue here (methane, nitrous oxide, and hydrofluorocarbons), to the extent respondents address them at all, they appear to agree that these substances are "air pollution agents" insofar as they cause effects other than climate change. CLG Br. 3 n.2 (acknowledging that methane is an air pollutant with respect to some of its effects); UARG Br. 45 n.18 (appearing to concede that EPA could regulate methane due to its "explosive characteristics" and other features). EPA agrees as well. 61 Fed. Reg. 9905, 9906 (1996) (methane contributes to landfill gas pollution). Yet nothing in the language of the Act supports treating a chemical substance as a pollutant for one purpose, but not for another, depending on the exact effects being targeted. Respondents' approach would, moreover, forbid EPA from regulating pollutants based on effects specifically singled out by Congress as among the important components of human welfare.[12] 42 U.S.C. 7602(h) (defining "welfare" to include

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[12] During debate on the 1970 Amendments, which added the terms "climate" and "weather" to the definition of "welfare," Senator Boggs introduced into the record a White House Report stating that: "Air pollution alters climate and may produce global changes in temperature. . . . [T]he addition of particulates and carbon dioxide in the atmosphere could have dramatic and long-term effects on world

"weather" and "climate"); Pet. Br. 15-16. There is no sense in respondents' approach.

Industry respondents, focusing solely on carbon dioxide, argue that this chemical is not an "air pollution agent" for several different reasons. They say that the Clean Air Act only applies to substances that make the air "dirty." UARG Br. 46; AAM Br. 23. This is not a word used in the Act. It is also hard to know what respondents mean by "dirty." For example, carbon *monoxide* is colorless and odorless (this is why carbon monoxide detectors are needed);[13] it is not "dirty" in the usual sense of the term. Yet carbon monoxide has been regulated under section 202 of the Act for decades, *see* Pub. L. No. 91-604, § 6(a), 84 Stat. 1676, 1690 (1970), and respondents do not question the appropriateness of this regulation.

Respondents also assert that carbon dioxide is not an "air pollution agent" because it is "essential to life." AAM Br. 20. Yet chromium and selenium, for example, are essential nutrients, *see* HARRISON'S PRINCIPLES OF INTERNAL MEDICINE 401 (Table 60-2), 410 (Kasper *et al.*, eds., 16th ed. 2005), and chromium and selenium compounds are nonetheless regulated as hazardous air pollutants under the Act. 42 U.S.C. 7412(b)(1). EPA has, moreover, just announced a proposed rule that would control the use of carbon dioxide as a substitute for ozone-depleting substances because *carbon dioxide is deadly at certain concentrations*. 71 Fed. Reg. 55140, 55143 (2006). Many substances have benign, or even beneficent, consequences at lower concentrations and malign consequences at higher concentrations. *See* STEPHEN BREYER, BREAKING THE VICIOUS CIRCLE: TOWARD EFFECTIVE RISK REGULATION 9 (1993) ("Drinking a bottle of pure iodine is

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climate." 116 Cong. Rec. 32907, 32914, 32917. This evidences an affirmative awareness of the problem of global climate change at the time Congress added the words "climate" and "weather" to the definition of "welfare."

[13] Consumer Product Safety Commission, Carbon Monoxide Questions and Answers, CPSC Document #466, available at http://www.cpsc.gov/CPSCPUB/PUBS/466.html.

deadly; placing a drop of diluted iodine on a cut is helpful."). Respondents' categorical treatment of carbon dioxide as "essential to life" ignores this basic scientific principle.

Respondents also argue that greenhouse gases do not belong in the category of "air pollution agents" because they exert their effects through their presence in the upper atmosphere, rather than in the "ambient air" as EPA has defined it. CLG Br. 10-11; UARG Br. 47-48. This is not a line drawn by Congress; it is one of respondents' invention. Section 302(g) requires only that, to be an air pollutant, substance or matter be "emitted into or otherwise enter[] the ambient air." 42 U.S.C. 7602(g).[14] There is no question that motor vehicles emit greenhouse gases into the very zone described by respondents. And, as a matter of scientific fact, greenhouse gases contribute to climate change at all altitudes, from the ground upwards.

Respondents' suggestion, moreover, that pollution control can and does focus only on cleaning the air to make it breathable (AAM Br. 21) ignores the fact that the Act's core provisions all protect welfare as well as human health. Pet. Br. 15. "[E]ffects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation," 42 U.S.C. 7602(h) (defining "welfare"), all go well beyond concerns with breathable air. And citation to a 1968 law review article on the nature of the air pollution problem (AAM Br. 23-25) hardly helps this Court to understand the nature of today's most challenging air pollution problems, quite apart from climate change. One of the reasons why ozone, example, has posed such a difficult problem is that it *does* cross airshed boundaries (*cf.* AAM Br. 25), yet no one in this proceeding is suggesting that ozone

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[14] *Cf.* 42 U.S.C. 7408(a)(2) (for purposes of air quality standards program, underlying scientific documents must describe effects on public health or welfare due to "the presence of such pollutant *in the ambient air*").

pollution is thus not the kind of "air pollution" the Clean Air Act aims to address.

Whatever the outer limits of the term "air pollution agents," they are not close to being reached by including carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons within the ambit of this term. Not only do these chemicals fit exactly within the "including" clause of the definition of "air pollution agents"; they also easily qualify as "air pollution agents" even without consideration of that clause. Indeed, EPA has recognized as much in other regulatory proceedings. Pet. Br. 33-34. Perhaps this is why EPA makes no effort to define "air pollution agents" in this case except to say that this term does not include greenhouse gases when they are being regulated as greenhouse gases. And it does not so much as mention the other proceedings in which it has taken a different approach to these chemicals. Interpretation for the nonce is not interpretation at all; it is merely improvisation.

III. EPA may not decline to issue emission standards for motor vehicles based on policy considerations not reflected within section 202(a)(1) of the Clean Air Act.

Four years after receiving a petition to regulate greenhouse gases from motor vehicles, and in settlement of a lawsuit charging EPA with unreasonably delay in answering the petition, EPA issued a final decision declining to regulate greenhouse gases. In the section of its decision relevant here, entitled "Different Policy Approach," EPA gave the reasons why it would refuse to regulate greenhouse gases from motor vehicles even if it had the authority to do so: it thought regulation under section 202(a)(1) was "piecemeal and inefficient"; it gestured toward the potential foreign policy implications of pursuing regulation under the Clean Air Act; it stated that technology might not be available to reduce all of the greenhouse gas emissions the petition covered; and it

outlined uncertainties remaining in our understanding of climate change. Pet. Br. 4-5, 39-44.

Nowhere did EPA assert that was declining to regulate due to resource constraints, competing priorities, or an inability to determine whether the statutory standard of endangerment was met—factors that might counsel chariness in judicial review. In arguing that EPA's decision should be reviewed under an especially forgiving standard of review, respondents ignore the actual structure of EPA's decision. That decision must be reversed if it is inconsistent with the Clean Air Act. It is.

A. EPA's decision must be reversed if it reflects a misinterpretation of the Clean Air Act.

A court reviewing an agency decision "shall . . . compel agency action unlawfully withheld . . . ." 5 U.S.C. 706(1). EPA's decision not to regulate greenhouse gases from motor vehicles should be overturned if it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. 706(2)(A). Under this standard, as explained in Part III.B below, petitioners win. It is understandable, therefore, that respondents work very hard to convince this Court to apply a different standard of review here.

Indeed, respondents' briefs brim with hints that EPA's decision declining to regulate greenhouse gases from motor vehicles might not be reviewable at all. U.S. Br. 38 & n.15, 45 & n.21; AAM Br. 43, 44. Respondents argue that agency refusals to issue rules are fundamentally different from agency decisions to issue rules, and that this difference makes the former "effectively nonreviewable." AAM Br. 43. Respondents stop short, however, of actually saying that EPA's decision is unreviewable, settling instead for a "more deferential standard" than the one that would be applied to agency rules or revocations of rules. U.S. Br. 39.

As support for a different standard of review for this case, the Solicitor General cites this Court's decisions in *Heckler v.*

Chaney, 470 U.S. 821 (1985), and *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29 (1983). In *Heckler*, of course, as the Solicitor General notes, the Court did not even address rulemaking proceedings. U.S. Br. 38 n.15; 470 U.S. at 825 n.2. Moreover, the Court based its decision as much on an analogy to prosecutorial decisions not to indict, and their historical immunity from review, as on the concerns the Solicitor General identifies. 470 U.S. at 832. Agency decisions not to promulgate rules do not implicate the prosecutorial discretion protected in *Chaney*. *See Am. Horse Prot. Ass'n v. Lyng*, 812 F.2d 1, 4 (D.C. Cir. 1987). As for *State Farm*, the Court's only reference to the actual standard of review that might be applicable to refusals to promulgate rules was the Court's mention of what the *petitioners* in that case thought that standard would be. 463 U.S. at 42. The case does not hold that a different standard of review applies to refusals to promulgate rules or, more particularly, that an agency that refuses to issue a rule has more leeway *in interpreting a statute* than an agency that issues a rule.

The Court's practice in reviewing agency decisions confirms that there is no special rule of interpretation reserved for agency refusals to promulgate rules. In *Young v. Community Nutrition Institute*, 476 U.S. 974 (1986), for example, the Court reviewed the refusal of the Food and Drug Administration (FDA) to promulgate a rule limiting aflatoxin in food. FDA's decision was challenged as a misinterpretation of its governing statute. Using ordinary tools of statutory interpretation, the Court investigated whether FDA had legally erred in refusing to promulgate the rule. *Id.* at 979-984. The Court upheld FDA's decision, but it did so by applying an ordinary standard of review to the case. To similar effect are *FCC v. ITT World Communications, Inc.*, 466 U.S. 463, 465-466, 469-474 (1984) (reviewing denial of rulemaking petition based on ordinary principles of statutory construction), and *NAACP v. Federal Power Comm'n*, 425 U.S. 662, 664, 666-671 (1976) (same).

In *Japan Whaling Association v. American Cetacean Society*, 478 U.S. 221 (1986), moreover, in a context strikingly similar to the one presented here, the Court scrutinized the Secretary of Commerce's refusal to certify that Japan's whaling practices "diminish[ed] the effectiveness" of the International Convention for the Regulation of Whaling, using ordinary tools of statutory construction. There, the Court made clear that an agency may not refuse to make a finding contemplated by a statute "for any reason not connected with the aims and . . . goals" of the relevant law. *Id.* at 233.

Likewise, the D.C. Circuit—contrary to respondents' suggestions (U.S. Br. 36-37; UARG Br. 26-29; AAM Br. 44)—reviews refusals to promulgate rules under the same standard it uses for informal agency rulemaking. This is not surprising, since section 706(1) of the Administrative Procedure Act (APA) does not draw the distinction respondents cite. For this reason, the very cases cited by respondents clearly hold that agency refusals to promulgate rules are to be overturned if the agency commits a "plain error of law." *Midwest Indep. Transmission Sys. Oper., Inc. v. FERC*, 388 F.3d 903, 911 (D.C. Cir. 2004); *Am. Horse Prot. Ass'n*, 812 F.2d at 5; *see also General Motors Corp. v. NHTSA*, 898 F.2d 165, 169-170 (D.C. Cir. 1990) (agency refusal to institute rulemaking guided by ordinary principles of statutory construction). The D.C. Circuit has, in fact, explicitly rejected the analogy to *Chaney* on which the government relies, *Am. Horse Prot. Ass'n*, 812 F.2d at 4, and has overturned agencies' denials of rulemaking petitions where the denials were grounded in an error of law. *See, e.g., id.* at 7 (overturning agency refusal to institute rulemaking where agency head had proved "blind to the nature of his mandate from Congress"). To be sure, the D.C. Circuit has been hesitant to overturn agency refusals to regulate where those refusals are grounded in "factors not inherently susceptible to judicial resolution," such as competing agency priorities, *see Natural Res. Def. Council v. SEC*, 606 F.2d 1031, 1046 (D.C. Cir. 1979), but those factors are not present in this case, where petitioners'

claim is that EPA's decision rested on a misinterpretation of the statute on which the decision was based.

Creating a more deferential interpretive standard in the context of agency refusals to take action would not only be inconsistent with existing precedent and the APA, it would have far-reaching (and bad) effects. A substantial number of regulatory regimes prohibit certain conduct or commercial activity in the absence of an agency decision allowing it; food additives (21 U.S.C. 348(a)(2)), new drugs (21 U.S.C. 355(a)), and certain medical devices (21 U.S.C. 360e(a)), to name just a few examples, may not be marketed without agency approval. If agency decisions "to institute proceedings or to promulgate rules" (U.S. Br. 36) were subject to the more forgiving standard of review respondents seek, then agency actions that decline to free up—rather than constrain—market behavior would be subject to the same forgiving standard.

In this case, the agency explained its refusal to act by noting that it preferred to take a different route from the one laid out in section 202(a)(1) of the Clean Air Act. Nothing in the "background principles of administrative law" EPA invokes (U.S. Br. 39) grants the agency the power to ignore statutes it does not like.[15]

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[15] The Solicitor General's emphasis (U.S. Br. 39-43) on the lack of a deadline for enacting standards, or for responding to petitions to enact standards, under section 202(a)(1) is misplaced. If there *were* a deadline for enacting standards under section 202(a)(1), perhaps petitioners would not have had to wait four years for an answer from EPA on the rulemaking petition. But once EPA answered that petition, the lack of an initial deadline for an answer became irrelevant. EPA answered the petition, and its answer may not violate the Clean Air Act. Were the law otherwise, the many cases recognizing that agencies may be held to account for "unreasonable delay" in their decisionmaking, *see, e.g., In re United Steelworkers of America v. Rubber Manufacturers Ass'n*, 783 F.2d 1117, 1120 (D.C. Cir. 1986) (per curiam); *Oil, Chemical and Atomic Workers International Union v. Zegeer*, 768 F.2d 1480, 1487-1488 (D.C. Cir. 1985) (Ginsburg, J.), would amount to empty gestures. On respondents' theory, an

B. EPA committed a plain legal error in declining to issue emission standards for motor vehicles based on policy considerations not reflected within section 202(a)(1) of the Clean Air Act.

Bad journalists bury the lede; bad interpreters bury the text. The latter, unfortunately, is exactly what EPA did in declining to regulate greenhouse gases and what it continues to do in trying to justify that decision to this Court.[16]

For the Court's convenience, here is the pertinent text of section 202(a)(1):

> The Administrator shall by regulation prescribe (and from time to time revise) standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.

42 U.S.C. 7521(a)(1). In its brief treatment of this statutory language, EPA concedes that this language means that once the agency has made a finding that emissions from new motor vehicles contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, EPA *must* regulate those emissions. U.S. Br. 41-42. But section 202(a)(1) places, in EPA's view, absolutely no constraint on the agency's decision whether to make such a determination in the first place. U.S. Br. 40-41.

EPA believes that the phrase "in his judgment" justifies the latter conclusion:

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agency could simply respond to any judicial directive to come to a timely decision by saying that it disagreed with the policy approach of the statute under which it operated.

[16] Petitioners' opening brief describes how EPA's decision concerning the scope of its discretion collides with section 202(a)(1). Pet. Br. 35-48.

> Nothing in Section 202(a)(1) . . . requires EPA to make [an endangerment] determination at any particular time. To the contrary, the provision emphasizes the Administrator's ability to exercise his 'judgment,' which presumably includes the judgment that this issue is not yet ripe for determination. Thus, absent a formal judgment by the Administrator that greenhouse gas emissions from new motor vehicles can be expected to cause endangerment, the agency retained its traditional flexibility to base its denial of the rulemaking petition on a broad range of discretionary factors.

U.S. Br. 41. EPA's interpretation and its presumption about the scope of the Administrator's discretion should be rejected for several reasons.

"In his judgment" modifies only the phrase "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. 7521(a)(1). It does not modify the word "shall" or grant wholesale discretion over the question whether to regulate emissions from motor vehicles. But that is how EPA reads the phrase. In EPA's view, "in his judgment" smuggles even a blatant disagreement with the policy of section 202(a)(1) into section 202(a)(1) itself, as a "discretionary factor" the agency is entitled to consider. Only thus can EPA argue that its characterization of section 202(a)(1) as an "inefficient, piecemeal" answer to the question before it helped to justify its refusal to regulate under that provision. U.S. Br. 48. An agency cannot, however, defend a decision based on its own preference for a policy approach different from the one Congress chose. *Motor Vehicle Mfrs. Ass'n v. State Farm*, 463 U.S. at 43 (agency may not rely "on factors which Congress has not intended it to consider").

Moreover, EPA's interpretation ascribes a very strange intent to Congress. According to EPA, Congress thought that emissions that contribute to air pollution which may reasonably be anticipated to endanger public health or welfare are such a big problem that EPA *must* regulate them. But, at

the same time, Congress gave EPA absolute discretion as to whether to make the determination on which regulation could be based. On EPA's theory, the agency could have right in front of its eyes conclusive evidence that climate change (for example) is causing and will, for the indefinite future, continue to cause an environmental catastrophe, and so long as it did not take a close look at that evidence, it would have absolutely no obligation to do anything to mitigate the threat. EPA's interpretation does violence not only to the text of section 202(a)(1) and to its basic sense, but also to an animating theme of the Clean Air Act itself: that as scientific knowledge advances, it should be pressed into service in protecting the public from threats to its health and welfare. *See* Amicus Brief of Former EPA Administrators Carol M. Browner *et al.*

Acceptance of EPA's position would also pay insufficient respect to Congress's choice, in section 202, of technology-based standards over the health-based standards found elsewhere in the Act. *See, e.g.*, 42 U.S.C. 7412(f)(2)(A). Technology-based standards demand much less intensive examination of the precise health and environmental consequences of pollution than health-based standards do. *See, e.g.*, Wendy E. Wagner, *The Triumph of Technology-Based Standards*, 2000 U. ILL. L. REV. 83, 94-97, 106. Requiring highly specific areas of scientific uncertainty to be resolved before regulating, as EPA has done, misapprehends the nature of the regulatory instrument Congress chose in enacting section 202.

Finally, EPA's interpretation gets the standard of scientific proof embodied in section 202(a)(1) just backwards. EPA interprets the phrase "in his judgment" to give the Administrator complete control over the determination of when the issue of endangerment "is . . . ripe for determination." U.S. Br. 41. *See also id.* at 44 ("EPA may properly defer making an endangerment determination while it waits for additional scientific and technical studies to be completed"); *id.* at 45 (referring to "agency's view that any decision whether to regulate in this area would be better made

after further research was conducted into critical areas of current scientific uncertainty"). Congress, however, included the phrase "may reasonably be anticipated" precisely in order to make clear that EPA need not, *and should not*, wait for all scientific uncertainties to be resolved before taking action against an environmental threat. Pet. Br. 41-43.

Citing *Ethyl Corporation v. EPA*, 541 F.2d 1 (D.C. Cir. 1976), the Solicitor General argues that "[t]he fact that EPA *may* regulate in the face of uncertainty . . . does not preclude the agency from deferring regulation pending the acquisition of additional information." U.S. Br. 47 n.23 (emphasis in original). This argument badly misconceives the decision in *Ethyl*, which Congress ratified in amending the endangerment standard of section 202(a)(1) in 1977. Pet. Br. 42 n.32. The court in *Ethyl* concluded that the agency's discretion was not only enlarged by the endangerment standard then in existence (because the standard permitted regulation in the face of uncertainty), but was *constrained* by it as well:

> A statute allowing for regulation in the face of danger is, necessarily, a precautionary statute. Regulatory action may be taken before the threatened harm occurs; indeed, the very existence of such precautionary legislation would seem to *demand* that regulatory action precede, and, optimally, prevent, the perceived threat. . . . We believe the precautionary language of the Act indicates quite plainly Congress' intent that regulation should precede any threatened, albeit unprecedented, disaster. . . . [T]he statutes—and common sense—demand regulatory action to prevent harm, even if the regulator is less than certain that the harm is otherwise inevitable.

541 F.2d at 13 & n.18, 25. Under section 202(a)(1) as amended to embody the *Ethyl* decision, the Administrator may not, as happened here, just wave a hand in the direction of scientific uncertainty in explaining a failure to act against a large-scale risk. There is always uncertainty in environmental matters, and, especially given the Clean Air Act's promotion of scientific research, there will always be "additional scientific

and technical studies" (U.S. Br. 44) awaiting completion. Acceptance of EPA's claim of the scope of its own discretion under section 202(a)(1) would render the precautionary aspect of that provision a nullity.

CONCLUSION

The judgment of the court of appeals should be reversed, with directions to remand the case to EPA for a statutorily-based, non-arbitrary decision on the petition for rulemaking.

Respectfully submitted,

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In The Supreme Court of the United States

COMMONWEALTH OF MASSACHUSETTS, *et al.*,

Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,

Respondent.

ON WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

BRIEF OF AMICI CURIAE ALASKA INTER-TRIBAL COUNCIL, COUNCIL OF ATHABASCAN TRIBAL GOVERNMENTS, AND RESISTING ENVIRONMENTAL DESTRUCTION ON INDIGENOUS LANDS IN SUPPORT OF PETITIONERS

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Interests of Amici Curiae

The Alaska Inter-Tribal Council (AITC) is a statewide, tribally governed, non-profit organization that advocates on behalf of tribal governments throughout the state.

The Council of Athabascan Tribal Governments (CATG) is a consortium of the ten Tribes in the Yukon Flats region of Alaska, nine of which are federally recognized Tribes. CATG is comprised of nine Gwich'in Tribes and one Koyukon Athabascan Tribe that occupy lands in the Yukon Flats region in the northeastern interior of Alaska.

Resisting Environmental Destruction on Indigenous Lands (REDOIL), a project of the Indigenous Environmental Network, consists of Alaska Natives of the Inupiat, Yupik, Aleut, Tlingit, Gwich'in, Eyak, and Denaiana Athabascan Tribes.

AITC, CATG, and REDOIL are greatly concerned about the impacts of global warming on their members. Living in the Arctic and sub-Arctic regions of Alaska, their members every day experience the effects of global warming, including thinning sea ice, increased coastal erosion, melting permafrost, and changes in plant and animal distributions.

Global warming is depleting the subsistence resources of the members of AITC, CATG, and REDOIL and threatening their health and safety. As a result, the members of AITC, CATG, and REDOIL have an interest in ensuring that the federal government has the authority under the Clean Air Act to regulate greenhouse gas emissions.

Authority for Filing Amicus Brief

Authority to file this brief is by consent under Supreme Court Rule 37. All parties to this case have consented to the filing of this brief.

Corporate Disclosure Statement

The *amici curiae*, AITC, CATG, and REDOIL, are all nonprofit corporations or organizations. None of them has a parent corporation, and no publicly held company has a 10 percent or greater ownership interest in any of these entities.

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Cases

Native Village of Quinhagak v. Lujan,
35 F.3d 388 (9th Cir. 1994) 13

Statutes, Regulations & Court Rules

Alaska National Interest Lands Conservation Act
16 U.S.C. § 3111 *et seq* 10, 13

Clean Air Act

§ 202(a)(1), 42 U.S.C. § 7521(a)(1) 3

§ 302(g), 42 U.S.C. § 7602(g) 3

§ 302(h), 42 U.S.C. § 7602(h) 4

Endangered Species Act
16 U.S.C. §1539(e) 10

Federally Recognized Indian Tribe List Act
25 U.S.C. § 479 2

Marine Mammal Protection Act
16 U.S.C. § 1371(b) 10

Migratory Bird Treaty Act
16 U.S.C. § 712(1) 10

Exec. Order No. 13175 §3(a), 65 Fed. Reg. 67249
(Nov. 6, 2000) 2

70 Fed. Reg. 71194-01 (Nov. 25, 2005) 2

Executive Mem. on Government-to-Government Relations with Native American Tribal Governments § 9 (April 29, 2004), https://www.denix.osd.mil/denix/Public/Native/Outreach/Memos/execmemo.html 2

Other Authorities

Alaska Native Heritage Center website at http://www.alaskanative.net/2.asp 2

Bauman, Margaret, *Conference Attendees Receive an Account of Arctic Warming*, Peninsula Clarion Nov. 30, 2005 2

Burns, William C.G., *From the Harpoon to the Heat: Climate Change and the International Whaling Commission in the 21st Century* (Pacific Studies in Development, Environment, and Security 2000). 7

Chance, Norman A., *The Inupiat and Arctic Alaska: An Ethnography of Development*, Harcourt (1990). 10

Cooper, Lee W. et al., *Rapid Seasonal Sea-Ice Retreat in the Artctic Could Be Affecting Pacific Walrus Recruitment*, 32 Aquatic Mammals (2006). 16

Egan, Timothy, *Alaska, No Longer So Frigid, Starts to Crack, Burn and Sag*, The New York Times, June 16, 2002, §1 20

Finney, Bruce P., *et al.*, *Impacts of Climatic Change and Fishing on Pacific Salmon Abundance Over the Past 300 Years*, 290 Science 795 (2000). 11

Gibson, Margie Ann & Schullinger, Sallie B., *Answers from the Ice Edge: The Consequences of Climate Change on Life in the Bering and Chukchi Seas* (Artic Network & Greenpeace U.S.A. 1998), http://archive.greenpeace.org/climate/arctic/reports/testimonies.pdf 15

Gregory, Jonathan M. *et al.*, *Threatened Loss of the Greenland Ice Sheet*, 428 Nature 616 (2004). 14

Hansen, James et al., *Global Temperature Trends: 2005 Summation*, National Aeronautics and Space Agency (2005), http://data.giss.nasa.gov/gistemp/2005/ 5

Hassol, Susan Joy, Arctic Council, *Impacts of a Warming Arctic*: *Arctic Climate Impact Assessment* (2004) ..... *passim*

Hinzman, Larry D. et al., *Evidence and Implications of Recent Climate Change in Northern Alaska and Other Arctic Regions*, 72 Climatic Change 252 (2005) 9, 11

Intergovernmental Panel on Climate Change, *Climate Change 2001: Synthesis Report*, Contribution of Working Groups I, II, and III, 69, R.T. Robertson et al. (eds.) (2001) 6

Intergovernmental Panel on Climate Change, *Third Assessment Report: The Scientific Basis*, Contribution of Working Group I, Summary for Policymakers, J.T. Houghton et al. (eds.) (2001) ..... *passim*

Karl, Thomas R. & Trenberth, Kevin E., *Modern Global Climate Change*, 302 Science 1719 (2003). 7

Lawrence, David M. and Slater, Andrew G., *A Projection of Severe Near-Surface Permafrost Degradation During the 21st Century*, 32 Geophysical Research Letters L24401 (2005) 19, 20

Maynard, Nancy G., *Final Report: NativePeoples-Native Homelands Climate ChangeWorkshop* (1998)..... 17

Memorandum of William Ruckelshaus, EPA Administrator, *EPA Policy for the Administration of Environmental Programs on Indian Reservations* (Nov. 8, 1984)..... 3

Monett, Charles et al., *Potential Effects of Diminished Sea Ice on Open-Water Swimming, Mortality, and Distribution of Polar Bears During Fall in the Alaskan Beaufort Sea,* Minerals Management Service, http://www.mms.gov/alaska/ess/Poster%20Presentations/MarineMammalConference-Dec2005.pdf..... 17

Motavalli, Jim, *Feeling the Heat: Dispatches from the Frontlines of Climate Change,* Routledge (2004). 18

National Assessment Synthesis Team, U.S. Global Change Res. Program, *Climate Change Impacts on the United States: The Potential Consequences of Climate Variability and Change* (2000) 18

National Research Council, National Academy of Sciences, *Cumulative Environmental Effects of Oil & Gas Activities on Alaska's North Slope* (2003) 15

O'Hara, Doug, *Permafrost is Warming*, Anchorage Daily News, Aug. 14, 2005. 20

Overpeck, J.T. *et al.*, *Arctic System on Trajectory to New, Seasonally Ice-Free State*, 86 *EOS* 312 (2005). 14

Peter, Evon, *The People and the Caribou Are One, Voices from the Earth* (2005), http://www.sric.org/voices/2005/v6n1/caribou.html. 12

Roosevelt, Margot, *Vanishing Alaska,* Time Magazine, Sept. 27, 2004. ..... 11, 23, 24, 25

Rosen, Yereth, Warming Climate Disrupts Alaska Natives' Lives, Reuters, April 16, 2004, http://www.cnr.vt.edu/lsg/intro/global%20warmimg %20-%20alaska.pdf. 13

Smith, Orson P., & Levasseur, George, *Impacts of Climate Change on Transportation Infrastructure in Alaska, The Potential Impacts of Climate Change on Transportation, Part II, Regional Case Studies* (U.S. Dep't of Transportation, 2001). 23

Sturm, Matthew, *et al.*, *Meltdown in the North, Scientific American* (2003). 14

Threat to North's Cultural Survival, 109 ECO 2 (Climate Action Network, Bonn, Germany) (2003), http://www.climatenetwork.org/eco/cops/cop9/en/EC OCOP9En08.pdf. 10

U.S. Arctic Research Commission, *Climate Change, Permafrost, and Impacts on Civil Infrastructure* (2003), http://www.arctic.gov/publications.htm. 19

U.S. Arctic Research Commission, *The ArcticOcean and Climate Change: A Scenario For The U.S. Navy* (2002) http://www.arctic.gov/publications.htm. 19

U.S. Department of Interior, *Outer Continental Shelf Oil & Gas Leasing Program: 2002–2007 Final Environmental Impact Statement* (2002). 15

U.S. General Accounting Office, *Alaska Native Villages: Most Are Affected by Flooding and Erosion,But Few Qualify for Federal Assistance* (2003). 24

U.S. Geological Service, *Sea Level and Climate*, http://pubs.usgs.gov/fs/fs2-00/..... 15

U.S. Geological Service, *Status and Trends of the Nation's Biological Resources, Part 2* (Alaska), http://biology.usgs.gov/s+t/SNT/noframe/ak177.htm. 21

Verrengia, Joseph B., *In Alaska, an Ancestral Island Home Falls Victim to Global Warming,* Associated Press, Sept. 10, 2002..... 22, 23, 25

Watt-Cloutier, Sheila et al., *Responding to Global Climate Change: The Perspective of the Inuit Circumpolar Conference on the Arctic Climate Impact Assessment*, http://www.inuitcircumpolar.com/index.php?ID=267 &Lang=En 9, 11

Weller, Don, *Effects of Climate Change on Subsistence Communities in Alaska, Assessing the Consequences of Climate Change for Alaska and the Bering Sea Region,* University of Alaska Proceedings (1999). 17

Summary of Argument

By failing to heed the scientific consensus that climate change is occurring at an unprecedented rate, the Environmental Protection Agency (EPA) has ignored its mission to protect human health from environmental pollutants. No one feels the impacts of the federal government's inaction more than Alaska Natives, whose lives, traditions, and cultures are in jeopardy.

Nowhere are the effects of anthropogenic greenhouse gas emissions more severe than in the Arctic, where the rate of warming is twice that of the rest of the world. Alaska is on the front lines of climate change: polar sea ice is disappearing, weather patterns are changing, permafrost is melting, wildlife populations are declining, and coasts are eroding. At stake is the physical and cultural survival of Alaska's oldest inhabitants.

EPA has clearly established authority to regulate greenhouse gases. Despite EPA's claim to the contrary, the plain meaning of the Clean Air Act, as well as its legislative history, mandate that the agency regulate air pollutants that may reasonably be anticipated to endanger public health or welfare. While regulating greenhouse gas emissions from automobiles would be only the first step toward addressing potentially catastrophic climate change, it is necessary if the unique traditions and communities of Alaska's Native peoples are to survive this century.

I. Introduction.

> *"We are experiencing things in one lifetime that should take five or six generations. . . . We are making do with less [subsistence food] and trying to make the most of it."* — Ronald Brower Sr., speaking on behalf of the Inuit Circumpolar Conference (ICC).[1]

Alaska Natives comprise eleven distinct cultures. These cultures are generally organized into five groupings that draw upon cultural similarities or geographic proximity: the Athabascan of the Interior and eastern Alaska, the Yup'ik and Cup'ik of western Alaska, the Inupiaq and St. Lawrence Island Yupik of the northern and northwestern Arctic, the Aleut and Alutiiq of Southcentral Alaska and Aleutian Islands, and the Eyak, Tlingit, Haida, and Tsimshian of Alaska's southeastern archipelago.[2]

Alaska Natives are politically organized into 228 federally recognized tribes.[3] The Federal Government has a "unique legal relationship" with tribal governments that includes recognizing Tribes as sovereign governments.[4]

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[1] Margaret Bauman, *Conference Attendees Receive an Account of Arctic Warming*, Peninsula Clarion, at A2 (Nov. 30, 2005). The ICC is an international organization representing about 145,000 Inuit living in Arctic regions of Alaska, Canada, Greenland and Chukotka, Russia. *Id.*

[2] *See* Alaska Native Heritage Center website at http://www.alaskanative.net/2.asp (last visited August 26, 2006).

[3] 70 Fed. Reg. 71194-01 (Nov. 25, 2005). The Federally Recognized Indian Tribe List Act, Pub. L. No. 103-454, 108 Stat. 4791 (1994), requires the Secretary of the Interior to keep a list of federally recognized tribes. 25 U.S.C. § 479a-1(a).

[4] *See, e.g.*, Exec. Order No. 13175 § 3(a), 65 Fed. Reg. 67249 (Nov. 6, 2000) ("Agencies shall respect Indian tribal self-government and sovereignty, honor tribal treaty and other rights, and strive to meet the responsibilities that arise from the unique legal relationship between the Federal Government and Indian tribal governments."); *Executive Mem. on Government-to-Government Relations with Native American Tribal Governments* § 9 (April 29, 2004) (directing Federal agencies to operate "within a government-to-government relationship with federally

This unique relationship requires EPA and other federal agencies to "ensure meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications."[5] It requires EPA to give special consideration to Tribal interests in making agency policy and to insure the close involvement of Tribal Governments in making decisions and managing environmental programs affecting Tribal lands.[6]

The plain language of the Clean Air Act gives EPA authority to regulate emissions of greenhouse gases – primarily carbon dioxide (CO_2), methane (CH_4), nitrous oxide, and fluorocarbons. Section 202(a)(1) and other provisions in the Clean Air Act require EPA to regulate air pollutants that endanger public health or welfare. 42 U.S.C. § 7521(a)(1) (EPA shall regulate air pollutants from motor vehicles that "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare"). The air pollutants subject to regulation under section 202 are defined as "any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air." Clean Air Act § 302(g), 42 U.S.C. § 7602(g).

> [W]elfare includes, but is not limited to, effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic

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recognized Native American tribes"), available at https://www.denix.osd.mil/denix/Public/Native/Outreach/Memos/execmemo.html.

[5] Exec. Order No. 13175, *supra* note 4.

[6] Mem. of William Ruckelshaus, EPA Administrator, *EPA Policy for the Administration of Environmental Programs on Indian Reservations* (Nov. 8, 1984).

> values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants."

Clean Air Act § 302(h), 42 U.S.C. § 7602(h).

The greenhouse gases emitted by automobiles already are endangering the health and welfare of Alaska Natives in a manner that should trigger regulations under the Clean Air Act. These emissions are affecting soils, water, vegetation, animals, wildlife, weather, climate; damaging and deteriorating property; creating transportation hazards; and affecting economic values, and personal comfort and well-being. Air and water temperatures are climbing, sea ice is disappearing, weather patterns are less predictable, permafrost is melting, vegetation cover is changing, wildlife populations are threatened and declining, roads and villages are crumbling, and key subsistence species are no longer found in traditional hunting areas during the expected seasons.

II. Emissions of Greenhouse Gases from Human Activities are Changing the Earth's Climate at an Unprecedented Rate.

The world's climate scientists have reached an overwhelming consensus that greenhouse gases accumulating in the atmosphere as a result of human activities are causing global average temperatures to rise. They also agree that this warming effect is greatest in the polar regions.

International scientific consensus indicates that most of the atmospheric warming over the past 50 years is attributable to human activities, primarily the burning of fossil fuels.[7] Emissions from these activities increase

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[7] Hassol, Susan Joy, Arctic Council, *Impacts of a Warming Arctic: Arctic Climate Impact Assessment* 2 (2004) (hereinafter "ACIA report").

concentrations of CO_2, methane, and other heat-trapping gases in the atmosphere.[8] Since the start of the industrial revolution, the atmospheric CO_2 concentration has increased by about 35 percent.[9]

In 2001, the Intergovernmental Panel on Climate Change (IPCC) released a definitive report on climate change. The *Third Assessment Report*, which incorporated the findings of hundreds of scientists from around the world, was reviewed and approved by more than 100 governments.[10] The report concluded that the increase in temperature in the 20th century was likely the largest of any century in the past 1,000 years, and is very likely to be without precedent in many millennia.[11] Last year, 2005, was the warmest year in the last 100 years.[12]

Moreover, the likely rate of future warming is much larger than the observed changes in the 20th century.[13] In part, this is because much of the CO_2 emitted by human activities is dissolved into the oceans, where it remains for

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[8] ACIA report, at 2.

[9] *Id.*

[10] IPCC, *Third Assessment Report: The Scientific Basis*, Contribution of Working Group I, Summary for Policymakers 2, J.T. Houghton et al., eds., Cambridge Univ. Press (2001). The IPCC report contains (i) up-to-date descriptions of the climate system and related factors, (ii) based on the knowledge of the international expert communities, (iii) produced by an open and peer-reviewed professional process, and (iv) based upon scientific publications whose findings are summarized in terms useful to decision makers. IPCC, *Third Assessment Report: The Scientific Basis*, Technical Summary of the Working Group I Report 2 (hereinafter "Technical Summary").

[11] IPCC, *Third Assessment Report: The Scientific Basis*, *supra* note 10, Summary for Policymakers 2, 13.

[12] James Hansen et al., *Global Temperature Trends: 2005 Summation*, National Aeronautics and Space Agency (2005), *at* http://data.giss.nasa.gov/gistemp/2005/.

[13] IPCC, *Third Assessment Report: The Scientific Basis*, *supra* note 10, Summary for Policymakers 13.

several hundred years.[14] Currently, the ocean and the land together are absorbing about half of the anthropogenic CO_2 emissions.[15] The total amount of carbon in the oceans is about 50 times greater than in the atmosphere.[16]

However, the capacity of the oceans to absorb anthropogenic CO_2 is decreasing as CO_2 levels increase.[17] Warming reduces uptake of CO_2 by the ocean, reduces the transport of excess carbon to the deep ocean, and drives the ocean to release CO_2 to the atmosphere.[18]

The net effect will be more CO_2 in the atmosphere and an enhanced warming.[19] As a result, even after CO_2 concentrations have been stabilized, global mean temperature will increase for hundreds of years.[20] Further, many greenhouse gases reside in the atmosphere for centuries after being emitted, thereby causing a long-term warming effect.[21]

In the absence of reductions in emissions of greenhouse gases, there is a 90 percent probability that the Earth will warm between 1.4 degrees and 5.8 degrees Celsius (about 2.5 degrees to 10.4 degrees Fahrenheit) by the year 2100.[22]

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[14] IPCC, *Third Assessment Report: The Scientific Basis*, *supra* note 10, at 197.

[15] IPCC, *Third Assessment Report: The Scientific Basis*, *supra* note 10, Summary for Policymakers 7.

[16] *Id.* at 197.

[17] IPCC, *Third Assessment Report: The Scientific Basis*, *supra* note 7, at 199.

[18] *Id.* at 186, 197.

[19] IPCC, *Third Assessment Report: The Scientific Basis*, *supra* note 10, at 224.

[20] IPCC, *Third Assessment Report: The Scientific Basis*, *supra* note 10, Technical Summary 76.

[21] *Id.* at 24.

[22] IPCC, *Climate Change 2001: Synthesis Report* 69. The Synthesis Report represents the formally agreed statement of the IPCC concerning

The end result will be more frequent heat waves, droughts, extreme precipitation events and related impacts, such as wildfires, heat stress, vegetation changes, and sea level rise.[23]

Even if the increase in atmospheric temperature is limited to conservative scientific estimates (three degrees Fahrenheit), it would constitute a change unparalleled in recent millennia:[24]

> The last time it was three degrees warmer [Fahrenheit] than now was 100,000 years ago. Then, Central Europe had a climate like Africa's. And just three degrees separate today from the other climatic extreme, the last ice age of 10,000 years ago. Then, half of Europe lay under ice, and the sea level was 390 feet lower than it is today. A bitter north wind nipped at the ears of the polar bears living atop the frozen Baltic . . . Since the end of the last ice age, average global temperatures have never fluctuated by more than one degree.[25]

The climate change prediction is even more dire in the Arctic. As the IPCC report stated, the Arctic is extremely vulnerable to climate change, and major physical, ecological, and economic impacts are expected to appear rapidly.[26]

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key findings and uncertainties contained in the Working Group contributions to the *Third Assessment Report*, *supra* note 10.

[23] Thomas R. Karl & Kevin E. Trenberth, *Modern Global Climate Change*, 302 Science 1719, 1721 (2003).

[24] William C.G. Burns, *From the Harpoon to the Heat: Climate Change and the International Whaling Commission in the 21st Century* 9 (Pacific Studies in Development, Environment, and Security 2000).

[25] *Id.*

[26] IPCC, *Third Assessment Report: The Scientific Basis*, *supra* note 7, at 60.

> A variety of feedback mechanisms will cause an amplified response, with consequent impacts on other systems and people. There will be different species compositions on land and sea, poleward shifts in species assemblages, and severe disruptions for communities of people who lead traditional lifestyles. In developed areas of the Arctic and where the permafrost is ice rich, special attention will be required to mitigate the detrimental impacts of thawing, such as severe damage to buildings and transport infrastructure.[27]

In 2004, the Arctic Council commissioned a report that consolidated the scientific research on climate change trends, causes, and effects.[28] Nearly 300 scientists collaborated on the report, the *Arctic Climate Impact Assessment*, which also included traditional knowledge from Arctic indigenous communities.[29] Among its key findings were that global temperature is rising at an unprecedented rate and the worst is still to come.

The annual average temperature in the Arctic has increased at almost twice the rate as that in the rest of the

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[27] *Id.* at 60. A feedback occurs when the result of a process affects its origin thereby intensifying (positive feedback) or reducing (negative feedback) the original effect. *Id.* at 91.

[28] ACIA report, *supra* note 7. The Council is a high-level, intergovernmental forum that addresses the common concerns and challenges faced by the people and governments of eight Arctic nations: Canada, Denmark/Greenland/Faroe Islands, Finland, Iceland, Norway, Russia, Sweden, and the United States; six Indigenous Peoples' organizations – Aleut International Association, Arctic Athabaskan Council, Gwich'in Council International, Inuit Circumpolar Conference, Russian Association of Indigenous Peoples of the North, and Saami Council; and scientific observers.

[29] ACIA report, *supra* note 7.

world over the past few decades.[30] Increasing global concentrations of CO_2 and other greenhouse gases are projected to contribute to additional Arctic warming of about 4 degrees to 7 degrees Celsius (about 7 degrees to 13 degrees Fahrenheit) over the next 100 years.[31] Scientists predict the Arctic will enter a warming period not seen in recent history.[32]

The six Arctic Indigenous Peoples' organizations that are members of the Arctic Council submitted a statement to be included in the report. It was rejected as too political. The statement said, in part:

> To Arctic Indigenous Peoples, climate change is a cultural issue. We have survived in a harsh environment and if, as a result of global climate change, the species of animals upon which we depend are greatly reduced in number or location or even disappear, we as peoples would also disappear.[33]

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[30] ACIA report, *supra* note 7, at 10.

[31] *Id.*

[32] Larry D. Hinzman et al., *Evidence and Implications of Recent Climate Change in Northern Alaska and Other Arctic Regions*, 72 Climatic Change 252 (2005).

[33] Sheila Watt-Cloutier et al., *Responding to Global Climate Change: The Perspective of the Inuit Circumpolar Conference on the Arctic Climate Impact Assessment*, http://www.inuitcircumpolar.com/index.php?ID=267&Lang=En (last visited Aug. 28, 2006).

III. Climate Change Threatens the Physical and Cultural Survival of Alaska Natives.

> *"Time is running out for the Arctic. We need far-reaching, long-term global commitments to reduce emissions of greenhouse gases if the Arctic is to be protected and if our human rights, particularly our human rights to subsistence, are to be respected."*
> — Sheila Watt-Cloutier, ICC Chair[34]

Alaska Natives have occupied Alaska for thousands of years.[35] They rely upon and have a sophisticated knowledge of their natural environment. This physical and spiritual relationship is sometimes encapsulated in the term "subsistence."

Congress defined subsistence as "the customary and traditional uses . . . of wild, renewable resources" for food, clothing, sharing, or other customary uses.[36] It also recognized the importance of Alaska Native subsistence by giving subsistence activities expanded protections under federal environmental and public land statutes.[37]

Alaska Natives, relying on their traditional knowledge of the sea, ice, land, and animals, thrive in an extreme

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[34] *Threat to North's Cultural Survival*, 109 ECO 1 (Dec. 11, 2003).

[35] Norman A. Chance, *The Inupiat and Arctic Alaska: An Ethnography of Development* 17-18, Harcourt (1990).

[36] Alaska National Interest Lands Conservation Act ("ANILCA"), 16 U.S.C. § 3113.

[37] *See, e.g.*, Endangered Species Act, 16 U.S.C. §1539(e) (exempting Alaska Natives from take provisions "if such taking is primarily for subsistence purposes"); Marine Mammal Protection Act, 16 U.S.C. § 1371(b) (exempting Alaska Natives from the Act's take provisions if take "is for subsistence purposes"); Migratory Bird Treaty Act, 16 U.S.C. § 712(1) (enabling Secretary of Interior to permit Alaska Natives to take migratory birds and collect their eggs for seasonal subsistence use); ANILCA, 16 U.S.C. § 3114 (establishing subsistence preference for fish and wildlife uses on public lands).

environment.[38] These resources not only sustain the economic and nutritional viability of Alaska Native communities, they also provide a basis for social identity, spiritual life, and cultural survival.[39]

Climate change threatens the very existence of Alaska Native communities.[40] The sea ice is less stable, weather patterns are unusual, vegetation cover is changing, and key subsistence species are no longer found in traditional hunting areas during the expected seasons.[41]

Since the 1970s, Alaska Natives have reported environmental changes outside the bounds of "normal" variability.[42] They have reported sightings of American robins and salmon, whose normal range does not include the Arctic.[43] Several communities have observed changes in the health and behavior of caribou, a key subsistence species.[44] In the Pribilof Islands, villagers blame climate change and industrial contaminants for the decline of 20 species, ranging from kelp to sea lions.[45]

Climate change also may be reducing salmon populations in Alaska.[46] Salmon and other fish make up 60 percent of Alaska Natives' subsistence resources.[47] Recent declines in fish populations directly affect the dietary and economic well-being of these people. In short, climate

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[38] *See, e.g.*, ACIA report, *supra* note 7, at 94.

[39] *Id.*

[40] *Id.*

[41] *Id.*

[42] Watt-Cloutier, *Responding to Global Climate Change*, *supra* note 29.

[43] Hinzman, *supra* note 23, at 286.

[44] *Id.*

[45] Margot Roosevelt, *Vanishing Alaska*, Time, Sept. 27, 2004, at 68-70.

[46] Bruce P. Finney et al., *Impacts of Climatic Change and Fishing on Pacific Salmon Abundance Over the Past 300 Years*, 290 Science 795, 797 (2000).

[47] ACIA report, *supra* note 7, at 119.

change is rearranging the environment upon which Alaska Natives depend to survive:

> The weather seems less stable and predictable. From sources of indigenous knowledge across the Arctic come reports that the weather seems more variable, unfamiliar, and is behaving unexpectedly and outside the norm. Experienced hunters and elders who could predict the weather using traditional techniques are now frequently unable to do so. Storms often occur without warning. Wind direction changes suddenly. In many places it is increasingly cloudy. Storms bringing high winds and lightning occur with increasing frequency in some locations. As noted by several elders, "the weather is harder to know." This presents problems for many activities, from hunting to drying fish, on which Indigenous Peoples depend.[48]

A. Climate Change Threatens The Existence of Alaska Native Communities and Culture.

> *"The practice of coming out here and being on the land and hunting caribou is not only about feeding our families, because it is all we have to survive from. We don't have Safeways and Wal-Marts and stuff like that in our tribes. But it's also about maintaining our culture and our spiritual relationship with these animals that we've had for time immemorial."* — Evon Peter, Arctic Village, Alaska[49]

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[48] ACIA report, *supra* note 7, at 96.

[49] Evon Peter, *The People and the Caribou Are One, Voices from the Earth*, Spring 2005, http://www.sric.org/voices/2005/v6n1/caribou.html (last visited Aug. 27, 2006).

The continuation of the opportunity for rural residents in Alaska to engage in subsistence activities is essential to Native physical, economic, traditional, and cultural existence.[50] The situation in Alaska is unique because, in most cases, no practical alternative exists to replace food supplies and other items gathered from the fish and wildlife that supply rural residents dependent on subsistence activities.[51]

"[Fifty] percent of the food for three-quarters of the Native families in Alaska's small and medium villages is acquired through subsistence uses, and 40 percent of such families spend an average of six to seven months of the year in subsistence activities."[52]

1. Thinning and Receding Sea Ice Reduces Subsistence Resources on Arctic Coasts

> "*It looks like winter out there, but if you've really been around a long time like me, it's not winter. . . . If you travel that ice, it's not the ice that we traveled 40 years ago.*" — Orville Huntington, Alaska Native Science Commission.[53]

In the Arctic, sea ice is one of the most important factors influencing climate.[54] Changes in sea ice have enormous environmental, economic, and societal implications.[55] The

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[50] ANILCA § 801(1), 16 U.S.C. § 3111.

[51] ANILCA § 801(2), 16 U.S.C. § 3111.

[52] *Native Village of Quinhagak v. Lujan*, 35 F.3d 388, 389-90 (9th Cir. 1994) (citing H.R. Rep. No. 95-1045 at 181, (1978)).

[53] Yereth Rosen, *Warming Climate Disrupts Alaska Natives' Lives*, Reuters, April 16, 2004, http://www.cnr.vt.edu/lsg/intro/global%20warmimg%20-%20alaska.pdf (last visited Aug. 27, 2006).

[54] *Id.*

[55] *Id.*

Arctic is rapidly losing its permanent sea ice.[56] Within a century, the Arctic Ocean may have ice-free summers.[57]

The Arctic also exerts control over the global climate.[58] Much as a spillway in a dam controls the level of a reservoir, polar regions control the Earth's heat balance.[59] As the Arctic sea ice melts and shrinks, it reflects less sunlight and the dark, open ocean absorbs more heat, eventually warming the entire planet.[60]

As a result of the melting of sea ice, and a corresponding diminishing of snow cover on land, the far northern regions of North America, including Alaska, are exceeding global mean warming by about 40 percent.[61] This is due to a natural phenomenon known as poleward amplification: as the ice cover decreases, the oceans and land absorb more of the sun's energy, creating a positive feedback that in turn significantly increases warming in high latitudes.[62]

Scientists also warn that the melting of the polar ice sheets could have dire consequences.[63] If the current pace of melting continues, the seas will rise 10 or more meters, flooding areas inhabited by 25 percent of the U.S.

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[56] J.T. Overpeck et al., *Arctic System on Trajectory to New, Seasonally Ice-Free State*, 86 EOS 312 (2005).

[57] *Id.* at 309.

[58] Matthew Sturm et al., *Meltdown in the North*, Scientific American 62 (2003)

[59] *Id.*

[60] *Id.*

[61] IPCC, *Third Assessment Report: The Scientific Basis*, *supra* note 7, Summary for Policymakers 13.

[62] *See* IPCC, *Third Assessment Report: The Scientific Basis*, *supra* note 7, Technical Summary 50.

[63] Jonathan M. Gregory et al., *Threatened Loss of the Greenland Ice Sheet*, 428 Nature 616 (2004).

population.[64] The Gulf and East Coast states will experience the brunt of the impacts.[65]

In the Arctic, this melting likely will have devastating consequences for polar bears, ice-dependent seals, walrus, and the Alaska Natives for whom these animals are a primary food source.[66] Sea ice supports an important food web of fish, seabirds, and marine mammals.[67] Phytoplankton blooms at the ice edge feed prolific arctic cod, which in turn feed beluga whales, narwhal whales, and harp seals.[68] Polar bears, walrus, and ringed seals use the ice for transportation and as a "floating platform for resting, feeding, and producing their young."[69]

As the sea ice melts, seal and walrus populations will decline.[70] Ice dependent seals, including the ringed seal, ribbon seal, and bearded seal, are particularly vulnerable because they give birth and nurse their pups on the ice.[71] They also forage near the ice edge, an extremely productive area especially sensitive to climate change.[72]

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[64] U.S. Geological Service, *Sea Level and Climate*, at http://pubs.usgs.gov/fs/fs2-00/.

[65] *Id.*

[66] ACIA report, *supra* note 7, at 8.

[67] U.S. Dept. of Interior, *Outer Continental Shelf Oil & Gas Leasing Program: 2002–2007 Final Environmental Impact Statement* 4-7 (2002).

[68] Nat'l Res. Council, Nat'l Academy of Sciences, *Cumulative Environmental Effects of Oil & Gas Activities on Alaska's North Slope* 92 (2003).

[69] Margie A. Gibson & Sallie B. Schullinger, *Answers from the Ice Edge*, 8 (Arctic Network & Greenpeace U.S.A. 1998), http://archive.greenpeace.org/climate/arctic/reports/testimonies.pdf (last visited Aug. 29, 2006).

[70] ACIA report, *supra* note 7, at 59.

[71] *Id.*

[72] *Id.*

Female walruses with calves use seasonal sea-ice as a platform from which to dive to the bottom while feeding.[73] These animals are not normally observed in deep water because of the absence of food in those areas and their inability to dive to depths greater than 200 meters.[74] Walrus calves are dependent on maternal care for two or more years before they are able to forage for themselves, so the presence of seasonal sea-ice appears to be critical to their survival.[75] As the sea ice disappears, adult walrus may be forced to abandon their calves to search for food.

In the summer of 2004, researchers in the Chukchi and Beaufort Seas observed nine abandoned walrus calves.[76] These observations coincided with a rapid melting of sea ice in that area.[77] It is likely that other walrus calves have been abandoned, and presumably many have drowned.[78]

If, as a result of environmental changes in the Arctic, sea-ice continues to decline in thickness and extent, or if as the researchers observed, seasonal sea-ice retreat occurs rapidly with the onset of summer, it is possible that female walruses will have difficulty nourishing themselves and caring for their young.[79] Separations of walrus may become more common and widespread. Since walruses have a low reproduction rate and a high investment in nurturing young, with single calves born only every two to three years, the Pacific walrus populations may soon decline.[80]

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[73] Lee W. Cooper et al., *Rapid Seasonal Sea-Ice Retreat in the Arctic Could Be Affecting Pacific Walrus Recruitment*, 32 Aquatic Mammals 98 (April 2006).

[74] *Id.*

[75] *Id.*

[76] *Id.*

[77] *Id.* at 100.

[78] *Id.* at 98.

[79] *Id.* at 101.

[80] *Id.*

The same is true for the polar bear. In September 2004, researchers with the U.S. Minerals Management Service observed an unusual number of bears swimming offshore in the Beaufort Sea.[81] Following an abrupt windstorm, the researchers saw four dead bears floating far offshore in the same area.[82] This is the first reporting of drowned polar bears, and it is likely that many other bears have drowned.[83]

Arctic Inupiat communities depend on the sea for food, clothing, and other necessities, and they have traditionally harvested whales, walrus, seals, and other marine mammals. As large-scale warming has reduced the extent of ice upon which seals and walrus rest between searches for food, these key marine mammals become weakened and less productive, providing less sustenance for Native communities.[84]

The Inupiat and Yupik of Alaska's Arctic regions know and rely on this sea ice environment, traveling on the ice extensively in search of walrus, bowhead whales, and seals.[85] Caleb Pungowiyi of Nome recounted the importance of stable ice conditions:

> Ice is a supporter of life. It brings the sea animals from the North into our area and in the fall it also becomes an extension of our land. When it freezes along the shore, we go out on the ice to fish, to hunt marine

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[81] Charles Monett et al., *Potential Effects of Diminished Sea Ice on Open-Water Swimming, Mortality, and Distribution of Polar Bears During Fall in the Alaskan Beaufort Sea*, Minerals Mgmt. Serv., http://www.mms.gov/alaska/ess/Poster%20Presentations/MarineMammalConference-Dec2005.pdf (last visited August 29, 2006).

[82] *Id.*

[83] *Id.*

[84] Nancy G. Maynard, *Final Report: Native Peoples-Native Homelands Climate Change Workshop* 62 (1998) (citations omitted).

[85] Don Weller, *Effects of Climate Change on Subsistence Communities in Alaska, Assessing the Consequences of Climate Change for Alaska and the Bering Sea Region, Univ. of Alaska Proc.* 66 (1999).

> mammals and to travel. . . . When it starts disintegrating and disappearing faster it affects our lives dramatically.[86]

Many Arctic communities depend on hunting polar bear, walrus, seals, whales, seabirds, and other marine animals for their sustenance.[87] They now hunt at their own peril. The thinning and retreating sea ice makes it dangerous to hunt walruses, seals, and whales.[88] In 1998, a group of Native whalers had to be rescued after the ice floe they were on broke up and drifted out to sea.[89]

The thinning and receding of sea ice also is decimating subsistence resources:

> Gathering food directly from the land and the sea makes the Yupik very careful observers of their surroundings. In recent years, they have noticed that the walrus are thinner, their blubber less nutritious and oil from walrus fat does not burn as bright in their lamps as in times of old. At the same time, they have noticed that there are fewer and weaker seals. The Yupik hunters have had to go farther and farther from shore to reach the ice pack to find the newborn seals that are being fed fish from nearby waters by their parents.[90]

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[86] ACIA report, *supra* note 7, at 24.

[87] *Id.* at 61.

[88] Jim Motavalli, *Feeling the Heat: Dispatches from the Frontlines of Climate Change* 108, Routledge (2004).

[89] *Id.*

[90] Nat'l Assessment Synthesis Team, U.S. Global Change Res. Program, *Climate Change Impacts on the United States: The Potential Consequences of Climate Variability and Change* 366, (2000) (citing D.A. Rothrock *et al., Thinning of the Arctic Sea-Ice Cover*, 26 *Geophysical Research Letters* 3469 (1999)).

2. Melting Permafrost Diminishes Subsistence Resources

Permafrost is subsurface material that remains continuously frozen for at least two consecutive years.[91] The permafrost regions occupy approximately 24 percent of the Northern Hemisphere's terrestrial surface.[92] As the climate differentially warms in summer and winter, the active layer (the soil layer above permafrost that annually freezes and thaws) will thicken.[93]

Thickening of the active layer has two immediate effects.[94] First, decomposed plant material frozen in the upper permafrost thaws, exposing the carbon to microbial decomposition, which can release CO_2 and methane to the atmosphere.[95] These greenhouse gas releases may be considerable.[96]

Second, the ice in the upper permafrost is converted to water.[97] When ice-rich permafrost thaws, the surface

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[91] U.S. Arctic Research Comm'n, *Climate Change, Permafrost, and Impacts on Civil Infrastructure* 3 (2003), http://www.arctic.gov/publications.htm.

[92] *Id.* at 5.

[93] U.S. Arctic Research Comm'n, *The Arctic Ocean and Climate Change: A Scenario For The U.S. Navy* 10 (2002) http://www.arctic.gov/publications.htm.

[94] U.S. Arctic Research Comm'n, *Climate Change, Permafrost, and Impacts on Civil Infrastructure, supra* note 74, at 7.

[95] *Id.* at 8.(Because considerable quantities of carbon are sequestered in the upper layers of permafrost, a widespread increase in the thickness of the thawed layer could lead to the release of large quantities of CO_2 and CH_4 to the atmosphere. This in turn would create a positive feedback mechanism that could amplify regional and global warming) (citations omitted).

[96] David M. Lawrence and Andrew G. Slater, *A Projection of Severe Near-Surface Permafrost Degradation During the 21st Century*, 32 Geophysical Research Letters L24401 (2005).

[97] *Id.*

subsides.[98] Typically, this settling does not occur uniformly over space, but produces a chaotic surface with small hills and wet depressions known as thermokarst terrain.[99] When thermokarst occurs beneath a road, house, pipeline, or airfield, it can compromise their structural integrity and lead to collapse.[100] With regional warming, large areas may subside and areas near the coast may be inundated by encroaching seas.[101]

Climate change will likely trigger a new episode of widespread thermokarst, with serious consequences for most of the engineered works constructed in the Arctic during the twentieth century.[102] Already, melting permafrost has created underground voids that collapse into sinkholes. In northern areas, such as the city of Fairbanks, the melting has toppled spruce trees, and rippled pavement and bike trails abound.[103] Homes and buildings will sag into ruin.[104]

Elsewhere, entire forests appear to be sinking or drowning as melting permafrost forces water upward.[105] Alaskans call the phenomenon "drunken trees."[106]

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[98] *Id.*

[99] *Id.*

[100] *Id.*

[101] *Id.*

[102] *Id.* at 13-14.

[103] Doug O'Hara, *Permafrost is Warming*, Anchorage Daily News, Aug. 14, 2005, at A1.

[104] *Id.*

[105] Timothy Egan, *Alaska, No Longer So Frigid, Starts to Crack, Burn and Sag*, N.Y. Times, June 16, 2002, §1 at 1.

[106] *Id.*

3. Warming Threatens Caribou, a Key Food Source

"*Sometimes when they're supposed to show up, they don't show up. Sometimes they show up when they're not supposed to show up. . . . We've got 15 villages in Northeast Alaska and North Yukon Territory, and some in Northwest Territory, where the same people are depending on one caribou herd. We're caribou people . . . and we all depend on that same herd that migrates through our villages.*" — Sarah James, Arctic Village, Alaska[107]

Native peoples in more than 25 villages — more than 5,000 households — in northwestern Alaska depend on the caribou for subsistence.[108] Caribou are prominent in Alaska Native mythology, spirituality and cultural identity.[109]

Anthropogenic warming is projected to reduce the traditional forage for caribou herds, which in turn could lead to reduction in herd size.[110] The health of a caribou herd depends on the availability of abundant tundra vegetation and good foraging conditions, especially during the calving season.[111] Vegetation changes caused by climate change, along with rising sea levels, are projected to shrink the tundra area to its lowest extent in the past 21,000 years, greatly reducing breeding areas for many birds and grazing areas for land animals.[112]

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[107] ACIA report, *supra* note 7, at 73.

[108] U.S. Geological Service, *Status and Trends of the Nation's Biological Resources, Part 2* (Alaska), http://biology.usgs.gov/s+t/SNT/noframe/ak177.htm (last visited Aug. 29, 2006) (hereinafter "USGS report").

[109] ACIA report, *supra* note 7, at 71.

[110] *Id.*

[111] *Id.* at 70.

[112] *Id.* at 46.

Freeze-thaw cycles and freezing rain are also projected to increase.[113] Ice crust formation from freeze-thaw events affects most Arctic land animals by encapsulating their food plants in ice, severely limiting forage availability and sometimes killing the plants.[114] This freeze-thaw effect has caused caribou populations to crash significantly and frequently.[115] As the caribou herds face increasing trouble, communities that rely on them for subsistence are forced to reduce their harvest to ensure the sustainability of the herds.

B. Climate Change Is Endangering the Health and Safety of Alaska Natives

> *"The storms are getting more frequent, the winds are getting stronger, the water is getting higher and it's noticeable to everyone in town. If we get 12 to 14 foot waves, this place is going to get wiped out in a matter of hours. We're in panic mode because of how much ground we're losing. If our airport gets flooded out, there goes our evacuation by plane."* — Robert Iyatunguk, erosion coordinator for Shishmaref[116]

The effects of climate change have created health, safety, and security problems for Alaska Native communities. For example, the thinning and receding sea ice make subsistence hunts more dangerous. People are forced to travel farther across rough, open seas to reach the ice where the animals are found. These trips are more dangerous and costly.[117] When they reach the ice, it is unreliable and pieces often break off and float away in the midst of a hunt. In 2002, more than 100 stranded hunters

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[113] *Id.* at 70.

[114] *Id.* at 68.

[115] *Id.* at 69.

[116] *Id.* at 80.

[117] Joseph B. Verrengia, *In Alaska, an Ancestral Island Home Falls Victim to Global Warming*, Associated Press (Sept. 10, 2002).

had to be rescued when the ice on which they were hunting drifted far from shore.[118]

Melting permafrost also threatens the security of Arctic communities. Permafrost stabilizes the ground, buttressing shorelines against fierce Arctic storms.[119] As the permafrost warms and thaws, that buffer dissolves and shorelines erode.[120] This effect is compounded by the retreat of the sea ice, which no longer provides a calming influence on the often rough seas.[121]

In Shishmaref, for example, retreating sea ice and thawing permafrost have exposed the village to erosion from Arctic storms, which are fiercer and more frequent than in the past.[122] In this village, which sits on a narrow barrier island on the Chukchi Sea, several homes have fallen over a bluff and others teeter on its edge. The 600 village residents have watched one end of their village being eaten away, losing as much as 15 meters of land overnight in one storm.[123] In the past 30 years, 100 to 300 feet of coastline has washed away, half of it since 1997.[124]

The absence of sea ice also deprives Shishmaref residents of their route of travel to the mainland to hunt moose and caribou as they normally would do by early November.[125] Now, that waterway is ice free in autumn.[126]

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[118] *Id.*

[119] Orson P. Smith, & George Levasseur, *Impacts of Climate Change on Transportation Infrastructure in Alaska, The Potential Impacts of Climate Change on Transportation, Part II, Regional Case Studies* 6 (U.S. Dep't of Transportation 2001).

[120] *Id.* at 5-6.

[121] *Id.* at 7; ACIA report, *supra* note 7, at 80.

[122] ACIA report, *supra* note 7, at 80.

[123] *Id.*

[124] Roosevelt, *supra* note 45.

[125] ACIA report, *supra* note 7, at 80.

[126] *Id.*

Shishmaref is not an anomaly. At Point Hope, a bowhead-whaling village on the northwest coast of Alaska that dates from 600 B.C., flooding seawater threatens the airport runway and a seven-mile evacuation road.[127] "During storms, some people begin to panic," town official Rex Rock told *Time*.[128]

An investigation by the General Accounting Office, an investigative arm of Congress, found that 184 out of 213 (86.4 percent) Alaska Native villages experience some level of flooding and erosion.[129] The GAO report stated that:

> Native villages on the coast or along rivers are subject to both annual and episodic flooding and erosion. Various studies and reports indicate that coastal villages in Alaska are becoming more susceptible to flooding and erosion in part because rising temperatures cause protective shore ice to form later in the year, leaving the villages vulnerable to fall storms. . . . In addition, villages in low-lying areas along riverbanks or in river deltas are susceptible to flooding and erosion caused by ice jams, snow and glacial melts, rising sea levels, and heavy rainfall.[130]

The cost of relocating Shishmaref and other villages will be high.[131] Shishmaref residents voted to leave the community their families have inhabited for the past 4,000

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[127] Roosevelt, *supra* note 40.

[128] *Id.*

[129] U.S. General Accounting Office, *Alaska Native Villages: Most Are Affected by Flooding and Erosion, But Few Qualify for Federal Assistance* 2-3 (December 2003) (hereinafter "GAO report").

[130] *Id.* at 3.

[131] *Id.*

years and move to a site twelve miles away.[132] Unfortunately, the villages lack the many millions of dollars such moves would cost.[133] For now, Shishmaref and three other Alaska Native villages the Federal Government has found to be in "imminent danger" will remain where they are, exposed to the consequences of climate change.[134]

IV. Conclusion.

The effects of climate change already occurring in Alaska are among the most dramatic on Earth, even though the vast majority of the world's greenhouse gas emissions originate elsewhere. This dramatic destruction in Alaska is an early warning for the rest of the world of the devastation that will likely occur if industrialized nations and the industries that drive them fail to significantly curb their emissions of greenhouse gases. The longer the Federal Government delays regulation of greenhouse gases, the more severe and long lasting the effects of climate change are certain to be. Reducing greenhouse gas emissions from automobiles is a critical first step toward ensuring the survival of Alaska's Native communities.

For the foregoing reasons, the Court should reverse the decision of the Court of Appeals.

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[132] ACIA report, *supra* note 7, at 80; Roosevelt, *supra* note 45.

[133] Verrengia, *supra* note 117, at 5.

[134] Roosevelt, *supra* note 45; GAO report, *supra* note 129, at 4.

Respectfully submitted,

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IN THE

Supreme Court of the United States

COMMONWEALTH OF MASSACHUSETTS, *et al.*,
Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, *et al.*,
Respondents.

**On Writ of Certiorari to the
United States Court of Appeals
for the District of Columbia Circuit**

BRIEF FOR *AMICUS CURIAE* MADELEINE K. ALBRIGHT IN SUPPORT OF PETITIONERS

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Convention on Long-Range Transboundary Air Pollution, Nov. 13, 1979, T.I.A.S. No. 10,541, *reprinted in* 18 I.L.M. 1442 11

Global Climate Protection Act of 1987, Pub. L. No. 100-204, § 1103, 1987 U.S.C.C.A.N. (101 Stat.) 1331 ..... 7, 8

Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 11, 1997, 37 I.L.M. 22 13

Montreal Protocol on Substances that Deplete the Ozone Layer, Sept. 16, 1987, S. TREATY DOC. No. 100-10 (1987), 1522 U.N.T.S. 3 (entered into force Jan. 1, 1989) 11, 12

Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution to Abate Acidification, Eutrophication and Ground-Level Ozone, Nov. 30, 1999, State Dept. No. 05-181, *available at* http://www.unece.org/env/lrtap/full%20text/1999%20Multi.E.Amended.2005.pdf 11

Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on Heavy Metals, June 24, 1998, State Dept. No. 04-33, *available at* http://www.unece.org/env/lrtap/full%20text/1998.Heavy.Metals.e.pdf 11

Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution Concerning the Control of Emissions of Nitrogen Oxides or Their Transboundary Fluxes, Oct. 31, 1988, T.I.A.S No. 12,086, *available at* http://www.unece.org/env/lrtap/full%20text/1988.NOX.e.pdf. 11

TABLE OF AUTHORITIES—Continued

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United Nations Framework Convention on Climate Change, May 9, 1992, S. TREATY DOC NO. 102-38 (1992), 31 I.L.M. 849 13

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James L. Connaughton, Chairman, White House Council on Environmental Quality, Testimony before the United States Senate Committee on Commerce, Science & Transportation Subcommittee on Global Climate Change (Apr. 5, 2006), *available at* http://commerce.senate.gov/pdf/connaughton-040506.pdf 13

Paula Dobriansky, Under Secretary of State for Democracy and Global Affairs and Head of U.S. Delegation to the Conference of Parties to the UNFCCC, Remarks to the Conference of Parties to the UN Framework Convention on Climate Change (Dec. 7, 2005), *available at* http://www.state.gov/g/rls/rm/2005/57867.htm .. 15

ENGAGING COUNTRIES: STRENGTHENING COMPLIANCE WITH INTERNATIONAL ENVIRONMENTAL ACCORDS (Edith Brown Weiss & Harold K. Jacobson, eds., 1998) 18

Fact Sheet: The Asia-Pacific Partnership on Clean Development and Climate, *available at* http://www.whitehouse.gov/news/releases/2006/01/20060111-8.html 13

Jack L. Goldsmith, *Federal Courts, Foreign Affairs and Federalism*, 83 VA. L. REV. 1617 (1997) 17

TABLE OF AUTHORITIES—Continued

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INTERNATIONAL ENVIRONMENTAL SOFT LAW: COLLECTION OF RELEVANT INSTRUMENTS (W.E. Burhenne, ed., 1993) 18

LISA MARTIN, DEMOCRATIC COMMITMENTS, LEGISLATURES AND INTERNATIONAL COOPERATION (2000) 19

Secretary, Climate Change Fact Sheet: The Bush Administration's Action on Global Climate Change (May 18, 2005), *available at* http://www.state.gov/g/oes/rls/fs/46741.htm. 14

John K. Setear, *Ozone, Iteration and International Law*, 40 VA. J. INT'L L. 193 (1999) 12

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Harlan Watson, Senior Climate Negotiator and Alternate Head of U.S. Delegation, Remarks on President's Non-Paper (Dec. 2, 2005) *available at* http://www.state.gov/g/oes/rls/rm/57688.htm 15

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BRIEF FOR *AMICUS CURIAE* MADELEINE K. ALBRIGHT IN SUPPORT OF PETITIONERS

INTEREST OF *AMICUS CURIAE*[1]

Amicus Madeleine K. Albright served as Secretary of State of the United States from 1997 to 2001. From 1993 to 1997, Dr. Albright was the United States permanent representative to the United Nations. Dr. Albright has longstanding professional expertise in foreign policy and international

[1] The parties have consented to the filing of this brief. Their consent letters are on file with the Clerk of the Court. Pursuant to Rule 37.6, counsel for *Amicus Curiae* certifies that this brief was not written in whole or in part by counsel for any party, and that no person or entity other than counsel for *Amicus* has made a monetary contribution to the preparation and submission of this brief.

diplomacy, and a strong interest in the Court's resolution of the legal issues in this case to the extent that they bear on foreign policy and international diplomacy.

Now a principal of The Albright Group LLC, a global strategy firm, and the first Michael and Virginia Mortara Endowed Professor in the Practice of Diplomacy at the Georgetown School of Foreign Service, Dr. Albright also serves on the board of directors of the Council on Foreign Relations and the Aspen Institute.

Amicus does not advocate any particular foreign policy approach to global climate change, and takes no position here on the merits of the current government's approach to climate change. The purpose of this brief is to alert the Court to the disturbing implications of one of the government's claims in this case: that the EPA Administrator may decline to regulate greenhouse gases under the Clean Air Act, even if he has the requisite regulatory authority, based in part on foreign policy considerations unrelated to the statutory criteria established by Congress.

SUMMARY OF ARGUMENT

The Clean Air Act, § 202(a)(1), provides that the Administrator of the EPA "shall by regulation prescribe . . . standards applicable to the emission of any air pollutant" from any class of motor vehicles "which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. §7521(a)(1). In denying a petition seeking regulation under this provision of certain greenhouse gases ("GHGs") emitted by motor vehicles, the EPA claimed several policy rationales unrelated to these express statutory criteria. Among them, it asserted a foreign policy rationale, namely that "[u]nilateral EPA regulation of motor vehicle GHG emissions could also weaken U.S. efforts to persuade key developing countries to reduce the GHG intensity of their economies." Pet. App. A86.

The agency concluded that, "[u]navoidably, climate change raises important foreign policy issues, and it is the President's prerogative to address them." *Id.*

Amicus has three objections to this assertion based on her longstanding experience in foreign policy and international diplomacy. *First*, the EPA possesses neither the mandate nor the expertise necessary to make foreign policy judgments. Congress has not authorized the EPA to consider foreign policy in the exercise of its "judgment" whether to regulate greenhouse gases; indeed, foreign policy is nowhere mentioned in the relevant provision. Congress has been careful to separate the EPA's domestic regulatory function from the formulation of international climate policy, which Congress has specifically assigned, in the Global Climate Protection Act of 1987, to the Department of State.

Second, even if foreign policy considerations were relevant to the EPA's "judgment" under the Clean Air Act, § 202(a)(1), the EPA's foreign policy rationale for withholding regulation here does not deserve deference under either *Chevron U.S.A., Inc. v. Natural Resources Defense Council*, 467 U.S. 837 (1984), or *Skidmore v. Swift & Co.*, 323 U.S. 134 (1944). The EPA's judgment was not produced through consultation with expert foreign policy agencies. It also contradicts relevant diplomatic experience. There is no natural tension between domestic regulation and the ability of the United States to conduct foreign policy on climate change or related matters. Withholding regulation has not been a pre-condition for engaging other nations in global solutions in the past.

Moreover, the EPA's rationale conflicts with the government's own foreign policy on global warming. The EPA's rationale implies that withholding domestic regulation is necessary to ensure the government's ability to bargain with other nations over GHG. This might be true if the government were pursuing a "bargain through leverage" strategy, in

which the government withheld mandatory domestic reductions unless and until other nations agreed to mandatory reductions as well. But the government is not doing so. It is pursuing instead a policy of encouraging voluntary action on the part of developing nations, consistent with the economic development priorities of those nations. Domestic regulation under § 202(a)(1) cannot "weaken" the government's ability to persuade developing nations to make voluntary reductions consistent with their own priorities.

Third, the EPA's invocation of a speculative foreign policy concern as a basis for declining to implement a domestic statutory mandate has troubling implications beyond this case. If this Court were to accept the existence of such an amorphous foreign policy override, any statutory provision requiring agency "judgment" on the basis of statutory criteria could be transformed into a discretionary question of foreign relations, raising serious separation of powers concerns. Given the number of domestic issues that are now the subject of international negotiation, the opportunities for executive invocation of such a foreign policy trump are substantial. In the long run, the nation's diplomatic efforts are likely to be compromised by such an approach.

For these reasons, *Amicus* supports reversal of the judgment of the D.C. Circuit below.

ARGUMENT

Nothing in the Clean Air Act, § 202(a)(1), refers to foreign policy. Rather, that provision states simply that the Administrator of the EPA "shall by regulation prescribe . . . standards applicable to the emission of any air pollutant" from any class of motor vehicles "which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. §7521(a)(1). The EPA claims nonetheless that foreign policy considerations help to justify its refusal to regulate green-

house gas ("GHG") emissions. Specifically, the Administrator asserts that domestic regulation of greenhouse gases could "weaken U.S. efforts to persuade key developing countries to reduce the GHG intensity of their economies," and suggests that climate change must be left to the foreign policy prerogative of the President without agency action. Pet. App. A86.

This claim is unpersuasive as a matter of foreign policy and international diplomacy, for three reasons. First, foreign policy considerations are not relevant to the EPA's domestic regulatory judgment under the Clean Air Act, § 202(a)(1). Congress has made this clear both in the plain text of the Clean Air Act and in the Global Climate Protection Act of 1987. Second, even if foreign policy considerations were relevant to the EPA's judgment under § 202(a)(1), the particular foreign policy rationale the EPA offers here for withholding domestic regulation is not entitled to deference under any applicable standard of review. The EPA's foreign policy claims have no support in the record, contradict relevant diplomatic experience, appear not to be the product of consultation with relevant expert foreign policy agencies, and are irrational in light of the government's own foreign policy on climate change. Finally, if speculative foreign policy considerations may be used by the EPA to justify a refusal to regulate, as the EPA suggests, then foreign policy might become a trump card for the executive branch in a variety of domestic matters that are subject to international negotiation. This argument invites the misuse of foreign policy for domestic policy goals. Under such an approach, the long-term diplomatic interests of the United States would be compromised, not enhanced.

I. FOREIGN POLICY CONSIDERATIONS SHOULD PLAY NO ROLE IN THE EPA'S EXERCISE OF JUDGMENT REGARDING DOMESTIC REGULATION OF GREENHOUSE GASES UNDER THE CLEAN AIR ACT, § 202(a)(1)

Congress has not delegated foreign policy considerations to the EPA under the Clean Air Act, § 202(a)(1). The language of the statute omits any foreign policy concerns, and a negative implication may be drawn from the fact that Congress has elsewhere delegated responsibility for global climate change policy to the Department of State, not the EPA.

To begin with, the Clean Air Act, § 202(a)(1), nowhere mentions foreign policy as a relevant consideration, limiting the EPA's "judgment" instead to the narrow question of whether motor vehicles emitting greenhouse gases can "cause or contribute to air pollution which may . . . endanger public health or welfare." Congress knows well how to delegate foreign policy tasks to executive agencies, including in the environmental area. Indeed, several sections of the Clean Air Act specifically refer to some aspect of United States foreign policy or international law.[2] Section 202(a)(1), by contrast, remains resoundingly silent on foreign policy considerations.

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[2] *See e.g.*, 42 U.S.C. § 7415 (under the title "International Air Pollution," stating that when the Administrator believes that pollution originating in the United States is endangering the public health or welfare in another nation, he shall notify the governor of the state from which the emissions originate, which must modify its policy to prevent such endangerment); § 7617 (under the title "Stratospheric Ozone Protection," providing that "the President, through the Secretary of State and the Assistant Secretary of State for Oceans and International Environmental and Scientific Affairs, shall negotiate multilateral treaties, conventions, resolutions, or other agreements, and formulate, present, or support proposals at the United Nations and other appropriate international forums and shall report to the Congress periodically on efforts to arrive at such agreements"); § 7702(a) (under the heading "Congressional findings on

Moreover, Congress has made the irrelevance of foreign policy to the EPA's domestic judgments under § 202(a)(1) doubly clear by designating the Department of State, not the EPA, as the executive agency responsible for United States foreign policy regarding climate change. *See* Global Climate Protection Act of 1987 ("GCPA"), Pub. L. No. 100-204, § 1103(c), 1987 U.S.C.C.A.N. (101 Stat.) 1331, 1409. The GCPA tasks the State Department with the coordination of "United States Policy in the International Arena"[3] and, in contrast, charges the EPA with the formulation of "United States policy." *See* GCPA § 1103(b) ("The President, through the Environmental Protection Agency, shall be responsible for developing and proposing to Congress a coordinated *national* policy on global climate change" (emphasis added)).

In addition, the GCPA conspicuously omits the State Department from the list of agencies whose findings the EPA must consider before making domestic climate policy.[4] The

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acid rain," stating that "[t]he Congress finds and declares that acid precipitation resulting from other than natural sources . . . could affect areas distant from sources and thus involve issues of national and international policy").

[3] Under the heading "Coordination of United States Policy in the International Arena," GCPA § 1103(c) states: "The Secretary of State shall be responsible to coordinate those aspects of United States policy requiring action through the channels of multilateral diplomacy, including the United Nations Environmental Program and other international organizations."

[4] *See* GCPA § 1103 (b) ("Such policy formulation shall consider research findings of the Committee on Earth Sciences of the Federal Coordinating Council on Science and Engineering Technology, the National Academy of Sciences, the National Oceanic and Atmospheric Administration, the National Science Foundation, the National Aeronautic and Space Administration, the Department of Energy, the Environmental Protection Agency, and other organizations engaged in the conduct of scientific research.").

listed agencies are primarily responsible for scientific findings relevant to the EPA's threshold "endangerment" determination under § 202(a)(1). This supports the claim that Congress intends the EPA's domestic regulatory judgments to be independent of foreign policy considerations and focused instead on the express statutory criteria.

If anything, the GCPA suggests that the EPA has it backwards: the State Department must take account of minimum regulatory standards in *domestic* regulation when formulating *international* climate policy, not the other way around. Thus, domestic climate regulation is a floor below which international agreements may not go. *See* GCPA § 1103(c) ("In the formulation of [aspects of U.S. policy requiring multilateral diplomacy], the Secretary of State shall, under the direction of the President, work jointly with the Administrator of the Environmental Protection Agency and other United States agencies concerned with environmental protection, consistent with applicable Federal law."). But Congress has given no indication that domestic policy must similarly defer to foreign policy in the international climate policy arena. In the face of such contrary congressional indications, the EPA's assertion of foreign policy grounds to decline to regulate domestic greenhouse gases is unauthorized.

II. THE EPA'S ALLEGED FOREIGN POLICY RATIONALE DESERVES NO SPECIAL DEFERENCE, BECAUSE IT LACKS FOUNDATION IN AGENCY EXPERTISE AND IS CONTRARY TO RELEVANT DIPLOMATIC EXPERIENCE

Even if foreign policy considerations were relevant to the EPA's "judgment" under the Clean Air Act, § 202(a)(1), the EPA's foreign policy rationale in this case warrants no special deference. Agencies are entitled to deference only for judgments made pursuant to their specific mandates. For example, deference is appropriate under *Chevron U.S.A., Inc.*

v. Natural Resources Defense Council, Inc., 467 U.S. 837 (1984), "when it appears that Congress delegated authority to the agency generally to make rules carrying the force of law, and that the agency interpretation claiming deference was promulgated in the exercise of that authority." *United States v. Mead Corp.*, 533 U.S. 218, 226-27 (2001).

By contrast, when an agency acts on matters not delegated to the agency by statute and beyond its expertise, no special deference is appropriate. *See Gonzalez v. Oregon*, 126 S. Ct. 904, 922 (2006) (holding that the Attorney General's statutory authority to schedule controlled substances did not extend to prohibiting doctors from prescribing regulated drugs for use in physician-assisted suicide under state law permitting the procedure, noting that "deference here is tempered by the Attorney General's lack of expertise in this area and the apparent absence of any consultation with anyone outside the Department of Justice who might aid in a reasoned judgment").

In keeping with these general principles, this Court has deferred to administrative agencies on matters of foreign policy only when those agencies can claim a statutory mandate to consider foreign policy, and when they possess concomitant expertise. *See Japan Whaling Association v. American Cetacean Society*, 478 U.S. 221 (1986) (deferring to the Secretary of Commerce's refusal to certify a nation's non-conformity where the relevant statute specifically directed the agency to determine whether the nation's fishing practices undermined international conservation programs). *See also Sumimoto Shoji America, Inc. v. Avagliano*, 457 U.S. 176, 184-85 (1982) (deferring to the State Department's interpretation of an international treaty on grounds that, "[a]lthough not conclusive, the meaning attributed to treaty provisions by the Government agencies charged with their negotiation and enforcement is entitled to great weight."); *Zadvydas v. Davis*, 533 U.S. 678, 700 (2001) (according

weight to decisions of the Immigration and Naturalization Service because of the agency's "greater immigration-related expertise").

Here, as with the Department of Justice's interpretation of its authority in *Gonzalez v. Oregon*, the EPA's interpretation that its § 202(a)(1) "judgment" includes foreign policy discretion was not made pursuant to any delegation by Congress. Unlike the Department of Commerce in *Japan Whaling*, the EPA was not charged by Congress with making any finding regarding foreign nations or international agreements. Indeed, foreign policy is nowhere mentioned in § 202(a)(1). The appropriate standard of review is therefore not that applied in *Chevron* but rather that applied in *Skidmore v. Swift & Co.*, 323 U.S. 134 (1944) (holding an agency interpretation entitled to respect only to the extent it has the power to persuade).

Under *Skidmore*, the EPA's foreign policy rationale is not entitled to deference. Here, as in *Gonzalez v. Oregon*, the agency came up with its policy rationale entirely on its own, even though it lacked the relevant expertise. Nothing in the record suggests that the EPA consulted with the Department of State, the National Security Council, or any other relevant agency with foreign policy expertise, on whether its foreign policy position was appropriate.

Even if the more deferential *Chevron* standard of review were applicable, the EPA's rationale does not meet the requisite standard of reasonableness. To begin with, there is nothing in the record to support the EPA's assertion that domestic regulation would "weaken" United States efforts to engage developing nations in reducing their greenhouse gas emissions. Diplomatic experience suggests that this assertion is incorrect. Withholding regulation has not in the past been a pre-condition for engaging other nations in global solutions to environmental problems. The United States is party to several international agreements on air pollution that were negotiated

after related domestic regulation was already authorized and underway.[5] These agreements suggest that prior domestic regulation does not tie the government's diplomatic hands on a matter of global concern when it later negotiates international agreements.

It is at least equally plausible that domestic regulation might help prompt other nations to join in later international responses to global environmental problems. For example, early United States regulation of ozone-depleting substances helped to spur an international process that ultimately resulted in the Montreal Protocol, the agreement that phased out ozone-damaging chlorofluorocarbons.[6] Thus, there is no natural tension between domestic regulation and the ability of the United States to conduct foreign policy on climate change or related matters.

The EPA also claimed in its petition denial that the benefits of unilateral regulation of greenhouse gases by the United States could be "lost" because increases in emissions by developing nations could "overwhelm" them. Pet. App. A86. Yet again, past diplomatic experience casts doubt on such an

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[5] *See* Convention on Long-Range Transboundary Air Pollution, Nov. 13, 1979, T.I.A.S. No. 10,541, *reprinted in* 18 I.L.M. 1442. *See also* Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution to Abate Acidification, Eutrophication and Ground-Level Ozone, Nov. 30, 1999, State Dept. No. 05-181, *available at* http://www.unece.org/env/lrtap/full%20text/1999%20Multi.E.Amended.2005.pdf; Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on Heavy Metals, June 24, 1998, State Dept. No. 04-33, *available at* http://www.unece.org/env/lrtap/full%20text/1998.Heavy.Metals.e.pdf; Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution Concerning the Control of Emissions of Nitrogen Oxides or Their Transboundary Fluxes, Oct. 31, 1988, T.I.A.S No. 12,086, *available at* http://www.unece.org/env/lrtap/full%20text/ 1988.NOX.e.pdf.

[6] Montreal Protocol on Substances that Deplete the Ozone Layer, Sept. 16, 1987, S. TREATY DOC. NO. 100-10 (1987), 1522 U.N.T.S. 3 (entered into force Jan. 1, 1989).

assertion. Early United States reductions of ozone-depleting substances were not overwhelmed by increased emissions from other nations; indeed, reductions by the United States were key to securing concomitant reductions by other nations. *See* RICHARD ELLIOT BENEDICK, OZONE DIPLOMACY 6 (1991) ("[A]n *individual nation's policies and leadership* made a major difference. The United States undertook such leadership in achieving international agreement on ozone protection. The U.S. government set the example by being the first to take regulatory action against the suspect chemicals. Later, it developed a comprehensive global plan for protecting the ozone layer and tenaciously campaigned for its international acceptance through bilateral and multilateral initiatives. . . ." (emphasis in original)). *See also* John K. Setear, *Ozone, Iteration and International Law*, 40 VA. J. INT'L L. 193, 196 (1999).

The EPA's foreign policy rationale for withholding regulation might perhaps have some rationality if it were United States policy to seek leverage against other nations for mandatory emissions reductions by withholding mandatory domestic reductions unless and until other nations agreed to mandatory reductions as well. In that event, it might be the case that any premature domestic reductions would be overwhelmed by other nations' failure to comply.

But any such reasoning is belied in this case by the government's own actual international policy on climate change, which eschews a policy of pursuing mandatory reductions in favor of voluntary action.[7] The United States

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[7] The EPA's petition denial cites the Montreal Protocol as an illustration of *its* point that international agreements requiring mutual mandatory reductions are necessary to ensure that the benefits of unilateral reductions are not lost. The EPA's example, however, makes *Amicus*' point. The Montreal Protocol shows that a leverage strategy is only plausible if a state actually engages in bargaining: under Presidents Ronald Reagan and George H.W. Bush, the United States actively

has formally articulated, and is actively pursuing, a policy of encouraging voluntary action on the part of developing nations, consistent with the economic development priorities of those nations. This policy is exemplified by United States participation in the Asia-Pacific Partnership on Clean Development and Climate.[8] While *Amicus* takes no position on the merits of this policy, it is difficult to see how domestic regulation under § 202(a)(1) could "weaken" the government's ability to persuade developing nations to make voluntary reductions consistent with their own priorities.

The United States has declined to pursue mandatory emissions reductions under the auspices of the U.N. Framework Convention on Climate Change,[9] the Kyoto Protocol,[10] or any other international bilateral or multilateral process whose purpose is to provide the forum for negotiating *quid pro quo*

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participated in and signed the Montreal Protocol," pursuing a leverage strategy similar to that the EPA cited. By contrast, current climate policy has formally rejected a diplomatic strategy of bargaining for mandatory reductions.

[8] *See* Fact Sheet: The Asia-Pacific Partnership on Clean Development and Climate, *available at* http://www.whitehouse.gov/news/releases/2006/01/20060111-8.html; James L. Connaughton, Chairman, White House Council on Environmental Quality, Testimony before the United States Senate Committee on Commerce, Science & Transportation Subcommittee on Global Climate Change (Apr. 5, 2006), *available at* http://commerce.senate.gov/pdf/Connaughton-040506.pdf (describing the Asia-Pacific Partnership on Clean Development and Climate Change as "focus[ing] on voluntary practical measures to create new investment opportunities, build local capacity, and remove barriers to the introduction of cleaner, more efficient technologies").

[9] United Nations Framework Convention on Climate Change, May 9, 1992, S. TREATY DOC NO. 102-38 (1992), 31 I.L.M. 849. President George H.W. Bush signed the Treaty and it was ratified by the Senate in 1992. S. Rep. No. 103-35, at 76-78 (1993).

[10] Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 11, 1997, 37 I.L.M. 22.

reductions in greenhouse gas emissions. Administration policy has remained consistent on this point. In 2001, the President sent a letter to four Senators stating his opposition to the Kyoto Protocol, and reversing his earlier policy of calling for mandatory emissions cuts.[11] Two weeks later, the United States abandoned the Kyoto Protocol, announcing that it did not support the agreement and would not transmit it to the Senate for its advice and consent to ratification.[12] The government then began entering into bilateral and multilateral agreements with other nations geared *not* toward bargain ing over targets and timetables for mandatory reductions, but instead toward voluntary programs.[13] In December 2005, nations gathered in Montreal, Canada for the Eleventh Session of the Conference of Parties to the Rio Declaration and the First Meeting of the Parties to the Kyoto Protocol. There, the United States reiterated that it is not pursuing a leverage

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[11] *See* Text of a Letter From the President, Mar. 13, 2001, *available at* http://www.whitehouse.gov/news/ releases/2001/03/20010314.html ("I do not believe, however, that the government should impose on power plants mandatory emissions reductions for carbon dioxide, which is not a "pollutant" under the Clean Air Act.").

[12] *See, e.g., U.S. Won't Follow Climate Treaty Provisions, Whitman Says*, N.Y. TIMES A19 (Mar. 28, 2001).

[13] These international agreements currently include (a) the Methane-to-Markets Partnership; (b) the International Partnership for a Hydrogen Economy; (c) Carbon Sequestration Leadership Forum; (d) Generation IV International Forum; (e) Renewable Energy and Energy Efficiency Partnership; (f) Regional and Bilateral Cooperation; (g) Global Environmental Facility; (h) Tropical Forest Conservation Act (TFCA) and (i) the Asia-Pacific Partnership on Clean Development and Climate. *See* Secretary, Climate Change Fact Sheet: The Bush Administration's Action on Global Climate Change (May 18, 2005), *available at* http://www.state.gov/g/ oes/rls/fs/46741.htm.

strategy; rather, the nation's official position opposes any such formal negotiations.[14]

Thus, domestic regulation of greenhouse gases would seem consistent with, not contrary to, the government's foreign policy on global climate change. Whatever the best international strategy on climate change might be, there is nothing in the record, relevant diplomatic experience or the government's own foreign policy on climate change, to support the EPA's foreign policy rationale for withholding domestic regulation. On any applicable standard of review, it is not entitled to any special deference.

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[14] *See* Harlan Watson, Senior Climate Negotiator and Alternate Head of U.S. Delegation, Remarks on President's Non-Paper (Dec. 2, 2005) *available at* http://www.state.gov/g/oes/rls/rm/57688.htm ("The United States is opposed to any such discussions under the Framework Convention. . . . The U.S. position remains consistent: We see no change in current conditions that would result in a negotiated agreement consistent with the U.S. approach. . . We are not a party to the Kyoto Protocol and we do not support any such approach under the Convention for future commitments"); Paula Dobriansky, Under Secretary of State for Democracy and Global Affairs and Head of U.S. Delegation to the Conference of Parties to the UNFCCC, Remarks to the Conference of Parties to the UN Framework Convention on Climate Change (Dec. 7, 2005), *available at* http://www.state.gov/g/rls/rm/2005/57867.htm ("[The United States opposes] formalized discussions—specifically formalized discussions that provide a basis for negotiations. It is our belief that progress cannot be made through these formalized discussions. . . . [W]e also believe firmly that negotiations will not reap progress, as I indicated, because there are differing perspectives").

III. AN AGENCY'S USE OF A FOREIGN POLICY TRUMP TO AVOID DOMESTIC REGULATION MANDATED BY CONGRESS WOULD RAISE SERIOUS SEPARATION OF POWERS CONCERNS AND MIGHT WELL COMPROMISE DIPLOMACY

Lacking any statutory delegation or relevant diplomatic precedent, the EPA petition denial relies on vague notions of executive power in support of its argument that foreign policy concerns should override congressional intent. This argument has troubling implications beyond this case, the Clean Air Act, or the context of global warming. In certain contexts, it is clearly appropriate for courts to defer to executive determinations about the foreign policy interests of the United States. But where Congress has carefully divided domestic and foreign policy tasks, as it has in the global climate change context, vague and speculative invocations of foreign policy should be insufficient to displace the congressional scheme.

The foreign policy trump the EPA has invoked here cannot be confined to the Clean Air Act. Numerous statutes require administrative agencies to make "judgments" prior to regulating, while conditioning those judgments on specific statutory criteria.[15] Agencies may not override those criteria

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[15] *See, e.g.*, 42 U.S.C. § 7409 (creating two-step process for establishing national ambient air quality standards, including threshold determination whether pollutant is harmful to health and welfare); § 7411(b)(1) (requiring EPA Administrator to regulate emissions from stationary sources by first listing a "category" of sources when "in his judgment it causes or contributes to air pollution which may reasonably be anticipated to endanger health of welfare"). *See also* Federal Food, Drug, and Cosmetic Act, 21 U.S.C.A. § 355 (authorizing the Food and Drug Administration to regulate "new drugs," which requires a threshold determination based on the definition of "new drug" in Section 321(p)); Occupational Safety and Health Act, 29 U.S.C. § 652(8) (defining "occupational safety and health standard"); *Indus. Union Dep't, AFL-CIO v. Am. Petroleum*, 448 U.S. 607, 614-15 (1980) (establishing that OSHA

for policy reasons that are *ultra vires*. *Whitman v. American Trucking*, 531 U.S. 457 (2001). Contrary to the EPA's argument, *ultra vires* foreign policy reasons are no exception. If the Court were to accept a foreign policy override even where Congress has clearly set forth wholly domestic criteria, as it has in § 202(a)(1), then virtually any statute requiring agency "judgment" could be transformed into a discretionary question of foreign relations, raising serious separation of powers concerns.

It is no answer to suggest that, even if an area of domestic regulation has not yet produced international negotiations, it might do so in the future, requiring domestic regulatory abstinence now for the sake of future foreign policy. The range of domestic issues over which the federal government might be involved in international negotiations is vast, and opportunities for such executive invocation of a foreign policy trump would be difficult to cabin. The traditional foreign policy agenda has expanded to include a wide variety of social, cultural, labor, environmental and health issues that were previously thought to be exclusively domestic concerns. *See* Jack L. Goldsmith, *Federal Courts, Foreign Affairs and Federalism*, 83 VA. L. REV. 1617, 1671-72 (1997) ("Traditionally, public international law regulated relations among nations. It rarely overlapped with domestic law, and it rarely regulated private activity. Today, by contrast, it frequently regulates both public and private activities that were formerly domestic concerns." (internal citations omitted)). There are

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definition contains a threshold determination that the toxic poses a significant health risk in the workplace); Safe Drinking Water Act, 42 U.S.C. § 300g-1(b)(1)(B) (requiring the EPA to publish a maximum contaminant level goal and promulgate a national primary drinking water regulation for a contaminant if the Administrator determines, among other things, that "in the sole judgment of the Administrator, regulation of such contaminant presents a meaningful opportunity for health risk reduction for persons served by public water systems").

literally thousands of international instruments, including treaties, non-binding declarations, executive agreements, voluntary undertakings, memoranda of understanding, partnerships, and the like, to which the United States is currently party, or in which the United States plays some role or *could* play some role in the future.[16]

In some instances, the implications of the EPA's position might benefit the United States as a practical matter; in others, they might not. But there is a danger that in the long term, the diplomatic interests of the United States might well be compromised, not enhanced, if executive agencies had plenary power to allow foreign policy considerations to trump regulatory judgments that Congress required them to make. Administrations of different political leanings have all from time to time made representations internationally that their negotiating positions are limited by Acts of Congress and that there are minimum domestic statutory standards that must be observed. This is particularly true in negotiations on trade, fisheries, commercial access, and military aid. Freeing the Executive from the constraints of domestic legislation in these and other instances would fundamentally alter the practice of diplomacy, and jeopardize the careful balance of power and roles that characterize the management of United

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[16] On environmental matters alone, there are over a thousand such agreements. "By 1992, there were more than 900 international legal instruments (mostly binding) that were either fully directed to environmental protection or had more than one important provision addressing the issue." ENGAGING COUNTRIES: STRENGTHENING COMPLIANCE WITH INTERNATIONAL ENVIRONMENTAL ACCORDS 1 & n.1 (Edith Brown Weiss & Harold K. Jacobson, eds., 1998) (describing compilation undertaken by editors). Since then, the United Nations Treaty Series catalogues an additional 173 bilateral and 44 multilateral treaties under the category of "Environment." A standard compilation, updated through 2003, identifies 166 major non-binding international instruments related to the environment. *See* INTERNATIONAL ENVIRONMENTAL SOFT LAW: COLLECTION OF RELEVANT INSTRUMENTS (W.E. Burhenne, ed., 1993).

States foreign relations.[17] The executive latitude implied by the EPA's petition denial in this case thus might well come at a high price, not only for Congress, which could see its statutory standards ignored, but for future presidents, who, in many instances, could no longer credibly claim that they are unable to act in a way sought by a foreign negotiator. This would remove a valuable tool used regularly to limit the agenda for diplomacy.

An interpretation of the Clean Air Act that permits the invocation of a foreign policy override thus would invite the misuse of foreign policy to achieve domestic policy goals. It would enhance the executive branch at the expense of Congress under the guise of foreign policy necessity while undermining the long-term diplomatic interests of the United States. In an era of in which many domestic issues are tinged with foreign policy overtones, and where nations leverage and trade across many issues and interests, the opportunities for executive mischief are plenty. Thus diplomatic prudence, as well as the plain language of the Clean Air Act and this Court's precedents, support rejection of the EPA's expansive interpretation of its foreign policy discretion to ignore the domestic regulatory mandates Congress set forth in the Clean Air Act.

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[17] *See* LISA MARTIN, DEMOCRATIC COMMITMENTS, LEGISLATURES AND INTERNATIONAL COOPERATION 22 (2000) ("In democracies institutionalized legislative integration is a key determinant of the credibility of commitments.").

CONCLUSION

For the foregoing reasons, and those stated in the Brief of Petitioners, the judgment of the Court of Appeals should be reversed.

Respectfully submitted,

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COMMONWEALTH OF
MASSACHUSETTS, ET AL.,

Petitioners,

v.

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY,

Respondent.

**On Writ Of Certiorari To The
United States Court Of Appeals
For The District Of Columbia Circuit**

BRIEF OF THE STATES OF ARIZONA, IOWA, MARYLAND, MINNESOTA, AND WISCONSIN, AS AMICI CURIAE IN SUPPORT OF PETITIONERS

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INTEREST OF AMICI CURIAE

Amici are the States of Arizona, Iowa, Maryland, Minnesota, and Wisconsin, all of which are concerned about the effects of climate change on their sovereign interests. In particular, the issue of the proper federal response to climate change is of great interest and importance to the Amici States as that response has a significant effect on their land, waters, and resources.

Equally important to Amici States is ensuring that they will have Article III standing to bring suit in federal court when federal agencies make decisions, such as the one at issue here, that potentially preempt their state law. Such decisions injure the States by preventing them from creating or enforcing their sovereign law, and States should be able to seek redress for those injuries by challenging federal administrative decisions in federal court.

For example, Arizona's interest in this issue is highlighted by Arizona Governor Janet Napolitano's recent Executive Order, which established a statewide Climate Change Advisory Group to make recommendations to reduce emissions associated with climate change in Arizona, "recognizing Arizona's interests in continued growth, economic development and energy security." Ariz. Exec. Order No. 2005-02, at 1 (2005). The Executive Order requires the development of a Climate Change Action Plan because "Arizona and other Western States have particular concerns about the impacts of climate change and climate variability on our environment, including the potential for prolonged drought, severe forest fires, warmer temperatures, increased snowmelt, reduced snow pack, and other effects." *Id.* at 1. The Advisory Group completed a statewide emissions inventory which demonstrated that the

transportation sector was the leading contributor to emissions of climate change pollutants. Arizona Climate Change Advisory Group, *Final Arizona Greenhouse Gas Inventory and Reference Case Projections 1990–2020* (2005). The Advisory Group has recommended to the Governor various measures, including adoption of the State Clean Car Program promulgated in California, to reduce emissions of climate change pollutants. Arizona Climate Change Advisory Group, *Climate Change Action Plan* 68-69 (2006).

In 1996, the State of Iowa prepared the Iowa Greenhouse Gas Action Plan, including a baseline inventory of emissions of pollutants associated with climate change for 1990. Iowa Dep't of Nat. Resources, *Iowa Greenhouse Gas Action Plan and Appendix B Inventory of Iowa Greenhouse Gas Emissions for the Year 1990* (1996). The 1996 Action Plan recommended several measures to reduce emissions of those pollutants, including reduction of emissions from transportation sources. *Id.* at 34-49. In 2005, Iowa Governor Thomas J. Vilsack issued Executive Order No. 41 which recognized that "a reduction in the use of energy from fossil fuels will have significant benefits for the health of Iowa's citizens and our environment by reducing . . . greenhouse gases." The Governor's order required all state agencies to take several measures to reduce emissions, including reduction of emissions from state-owned vehicles.

In addition, Iowa is a plaintiff in a public-nuisance action against the top five carbon dioxide emitters in the United States. *Connecticut v. American Elec. Power Co.*, No. 05-5104 CV (2d Cir.) (appeal pending). In general, Iowa is concerned with the impacts of climate change including, for example, increased frequency and duration

of summertime heat waves threatening the public health, reducing crop yields, reducing livestock weight gain and milk production, and increasing production costs for confinement animal feeding operations; and increased frequency of intense summertime rainfall events resulting in crop loss, property damage, and increased insurance claims.

The State of Maryland has begun to investigate the impact of global climate change on the Chesapeake Bay, its tributaries and its shoreline. With over 4,000 miles of coastline, Maryland is concerned about the effects of global climate change on its wetlands, fisheries, birds, pollutant loadings, and loss of land due to sea level rise. Over thirty percent of Maryland's coastline undergoes some degree of erosion, which is projected to increase due to climate change from one foot every 100 years to two to three feet by 2100. Joint Global Change Resources Institute, *Climate Change Impacts: Maryland Resources at Risk* (2002). Consistent with the findings of other states, transportation and electrical generation are the largest sources of climate changing emissions. Maryland estimates that at least one-third of the state's carbon dioxide emissions come from the transportation sector. *See Maryland Greenhouse Gas Emissions Inventory 1990* (2001).

To begin to address these climate change impacts, a 2006 Maryland law, the Healthy Air Act, requires Maryland to join the Regional Greenhouse Gas Initiative (RGGI), an effort by several Northeastern states to reduce emissions of carbon dioxide from power plants through a regional cap and trade program. In the event that RGGI is unsuccessful, the Act requires the compilation of a State climate action plan as an alternative.

The State of Minnesota has prepared a Climate Change Action Report, in which it notes that "[t]he effects

of global climatic change in Minnesota probably will involve substantial warming, particularly in winter, and possibly increased precipitation. . . . It is thought likely that the incidence of heavy rainfall events will increase, continuing trends in the U.S. of the past fifty years. This suggests a possible increase in flooding and, paradoxically, greater likelihood of drought in summer as more moisture runs off and less is stored in soils." Minnesota Pollution Control Agency, *Minnesota Climate Change Action Plan: A Framework for Climate Change Action* 3 (2003). The Minnesota plan notes that "[t]ransportation and electrical generation are the largest sources of emissions in Minnesota," accounting for seventy percent of its emissions of pollutants associated with climate change. *Id.* at 4. Minnesota's plan makes several recommendations to reduce emissions, and, of particular interest here, highlights programs that reduce emissions from motor vehicles. *Id.* at 137.

The State of Wisconsin has a longstanding interest in the climate-change issue at the heart of this case. *See generally* Wisconsin Department of Natural Resources, *Global Issues*, at http://www.dnr.state.wi.us/org/aw/air/global/global.htm. In 1994, the Wisconsin Department of Natural Resources (WDNR) established a Climate Change Committee to develop a strategic plan specifying the actions Wisconsin should take to address climate-change issues. The WDNR subsequently adopted the Committee's proposal, titled "Wisconsin Climate Change Action Plan," which is available at http://dnr.wi.gov/org/aw/air/global/wiccap.pdf. *See also* WDNR, *Warming Trends: What global climate change could mean for Wisconsin*, Wisconsin Natural Resources Magazine (Apr./May 2000) (supplement to print publication), *available at* http://www.wnrmag.com/

supps/2000/apr00/global.htm. Wisconsin has inventoried emissions from pollutants associated with climate change, *see* Sara Kerr, WDNR, Bureau of Air Mgmt., *Wisconsin's Greenhouse Gas Emissions, Trends from 1990 to 2000* (2004), *available at* http://dnr.wi.gov/org/aw/air/global/global.htm, and commissioned the *Wisconsin Greenhouse Gas Emission Reduction Cost Study*, *available at* http://dnr.wi.gov/org/aw/air/global/ghgstudy.htm. Wisconsin also created the Wisconsin Voluntary Emission Reductions Registry Advisory Committee (http://dnr.wi.gov/org/aw/air/hot/climchgcom), which led to legislation creating the Wisconsin Voluntary Emission Reduction Registry (http://dnr.wi.gov/org/aw/air/registry/index.html) under Wis. Stat. § 285.78 and Wis. Admin. Code ch. 437. Finally, along with Iowa, Wisconsin is also a plaintiff in the public-nuisance action against the top five carbon-dioxide emitters in the United States. *See Connecticut v. American Elec. Power Co.*, No. 05-5104 CV (2d Cir.) (appeal pending).

STATEMENT

The Amici States have a unique interest in the federal response to climate change because that response will have a significant effect on the impact of climate change on state resources. In short, there likely will be greater emissions of climate change pollutants if emissions are regulated State-by-State rather than by the federal government. As a result, the effects of climate change on each State's land, waters, and other assets may well be exacerbated.

But the harm caused by the Environmental Protection Agency's (EPA's) decision goes beyond leaving States to

their own devices with respect to climate change. The EPA's decision further harms States because any attempts by the States to regulate emissions of climate change pollutants from motor vehicles – the second largest source of such emissions – could be and indeed have been challenged as preempted based on the EPA's decision.

I. Procedural History

On October 20, 1999, several parties petitioned the EPA to regulate emissions of certain pollutants associated with climate change – carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and hydrofluorocarbons (HFCs) – from new motor vehicles and engines under Section 202 of the Clean Air Act (CAA), 42 U.S.C. § 7521 (2006). Specifically, the petition asserted that the emissions of these pollutants by motor vehicles "may reasonably be anticipated to endanger public health or welfare" within the meaning of Section 202(a)(1) of the CAA because of their effects on the climate.

On September 8, 2003, the EPA denied the petition. The agency first asserted that "the CAA does not authorize regulations to address global climate change." Notice of Denial of Petition for Rulemaking, Control of Emissions From New Highway Vehicles and Engines, 68 Fed. Reg. 52,922, 52,924 (Sept. 8, 2003). In support of its contention, the EPA claimed that "Congress was well aware of the global climate change issue when it last comprehensively amended the CAA in 1990," *id.* at 52,926, but it "did not authorize regulation under the CAA to address global climate change," *id.* at 52,927. Based on its interpretation of Congress's actions with respect to the Act as well as enactments such as the Energy Policy and Conservation

Act – which assigns the creation of fuel economy standards to the Department of Transportation – the EPA concluded that

> Congress sought to develop a foundation for considering whether future legislative action on global climate change was warranted and, if so, what that action should be. From Federal agencies, it sought recommendations for national policy and further advances in scientific understanding and possible technological responses. It did not authorize any Federal agency to take any regulatory action in response to those recommendations and advances.

Id. at 52,927.

In addition, the EPA noted that even if it did have authority to regulate these pollutants under Section 202, it would not set standards for those pollutants. In support of its decision not to set standards, the EPA cited several considerations, including "scientific uncertainties," *id.* at 52,930, existing voluntary programs designed to reduce emissions of pollutants associated with climate change, *id.* at 52,931-33, and "important foreign policy considerations," *id.* at 52,931. It did not apply the statutory standard in Section 202(a)(1), which requires the agency to set standards for emissions from new vehicles or new engines of those pollutants that "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7521(a)(1).

On a petition for review of the EPA's decision, Judge Randolph of the United States Court of Appeals for the D.C. Circuit, writing the lead opinion for the panel, did not reach the issue of whether the EPA had authority to regulate the pollutants associated with climate change.

Massachusetts v. Environmental Protection Agency, 415 F.3d 50, 56 n.1 (D.C. Cir. 2005). Instead, he concluded that the EPA acted properly when declining to issue standards under Section 202. *Id.* at 58.

Judge Sentelle joined in the judgment, but only after first concluding that the Petitioners had not demonstrated injury sufficient to establish Article III standing to bring their challenge. *Id.* at 59-60. Judge Sentelle's view was that Petitioners "have alleged and shown no harm particularized to themselves," *id.* at 60, and therefore did not state an injury sufficient for Article III purposes. *Id.* at 59-60.

In dissent, Judge Tatel disagreed with both Judge Sentelle's assertion that Petitioners had failed to show a sufficiently particularized injury, *id.* at 64-66, and Judge Randolph's conclusion that the EPA had acted properly in denying the petition. Judge Tatel explained that, in his view, the EPA had the authority to regulate emissions of the pollutants associated with climate change, *see id.* at 67-74, and its refusal to regulate those emissions was not based on the statute and therefore was improper, *id.* at 74-82.[1]

[1] The argument made in this brief in support of Petitioner States' standing to bring this suit was presented to the United States Court of Appeals for the D.C. Circuit in a letter submitted to that court pursuant to D.C. Circuit Rule 28(j). *See* Letter from Marc Melnick, Counsel for Petitioner State of California, to Mark J. Langer, Clerk, United States Court of Appeals for the D.C. Circuit (Apr. 4, 2005).

II. State Efforts to Regulate Motor Vehicle Emissions of Climate Change Pollutants

Under Section 209 of the Clean Air Act, no State except for California is permitted to set emissions standards for motor vehicles. *See* 42 U.S.C. § 7543(a). California may adopt its own standards so long as those standards are no less protective of public health than federal standards and it applies for a waiver of preemption from the EPA. *See* 42 U.S.C. § 7543(b). One factor the EPA is to consider in determining whether to grant a waiver is whether California's standards are consistent with Section 202(a), the section under which the EPA was asked to act in this case.

While the matter at issue in this case was pending, in July 2002, the California legislature passed and its Governor signed into law Assembly Bill 1493, which has been codified at Section 43018.5 of the California Health & Safety Code. That law requires the California Air Resources Board (CARB) to develop "regulations that achieve the maximum feasible and cost-effective reduction of greenhouse gas emissions from motor vehicles." Cal. Health & Safety Code § 43018.5(a) (2006). In September 2004, CARB approved regulations that set limits on the emission of climate change pollutants from new motor vehicles sold in California beginning with the 2009 model year. *See* Cal. Code of Regs. tit. 13, §§ 1900, 1961, 1961.1 (2005). On December 21, 2005, California requested a waiver from the EPA as required under Section 209(b). *See* Letter from Catherine Witherspoon, Executive Officer, CARB, to Stephen L. Johnson, Administrator of EPA (Dec. 21, 2005), *available*

at http://www.arb.ca.gov/cc/docs/waiver. pdf. To date, the EPA has not ruled on California's request.

Section 177 of the Clean Air Act allows other States to adopt California motor vehicle standards so long as those standards are identical to California's. *See* 42 U.S.C. § 7507. After California adopted its emissions standards, ten States adopted California's standards: Connecticut, Maine, Massachusetts, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Vermont, and Washington. *See* Conn. Agencies Regs. § 22a-174-36b (2006); 06-096-127 Me. Code R. § 127 (2006); 310 Mass. Code Regs. 7.40 (2006); N.J. Admin. Code § 7:27-29 (2006); N.Y. Comp. Codes R. & Regs. tit. 6, § 218-8 (2006); Or. Admin. R. 340-257-0100 (2006); 25 Pa. Code §§ 126.411-412 (2006); R.I. Low Emission Vehicle Program, Air Pollution Control Reg. No. 37 (2006); Vt. Air Pollution Control Regs., Subch. XI and App. F (2006); Wash. Admin. Code 173-423-010 (2006).

In December 2004, a group of car manufacturers sued the State of California, arguing that its climate change emissions regulations were preempted on a variety of grounds, including the EPA decision at issue in this case. *See* First Amended Compl., *Cent. Valley Chrysler-Jeep, Inc. v. Witherspoon*, No. 1:04-cv-06663-REC-LJO (E.D. Cal. Feb. 16, 2005), ¶¶ 9(b), 47-51, 122-23.[2] Section 209(b), the California exemption provision, requires that any standard adopted by California be "consistent with" Section 202(a). 42 U.S.C. § 7543(b). Because the "EPA authoritatively concluded . . . [that] carbon dioxide is not a 'pollutant' under [S]ection

[2] All complaints referenced in these brief are available from the Public Access to Court Electronic Records (PACER) service. *See* http://pacer.psc.uscourts.gov/.

202(a) and cannot be regulated under [S]ection 202(a)," plaintiffs maintain that California cannot adopt standards that regulate carbon dioxide emissions, which would be inconsistent with the EPA's interpretation of Section 202 in the decision under review here. *Id.* at ¶ 51.

Similar lawsuits have been filed in two States that adopted the California standards, Rhode Island and Vermont, and they too include claims of preemption based on the EPA's decision. See Compl., *Ass'n of Int'l Auto. Mfrs. v. Sullivan*, No. 1:06-cv-00069-T-LDA (D.R.I. Feb. 13, 2006); Compl., *Green Mountain Chrysler-Plymouth-Dodge-Jeep v. Torti*, No. 2:05-CV-302 (D. Vt. Nov. 18, 2005). In the Vermont action, plaintiffs have asserted that the "authoritative determination by EPA [at issue here] precludes any State from adopting any new motor vehicle emissions standards for" pollutants associated with climate change. *See* Compl., *Green Mountain Chrysler-Plymouth-Dodge-Jeep v. Torti*, ¶ 105. The Rhode Island complaint, taking a somewhat different tack, asserts that the California regulations do not satisfy the statutory requirements for the exception to preemption because, among other things, carbon dioxide "is not 'an air pollutant' subject to regulation under Section 202(a) of the CAA" given the EPA's decision and therefore the California regulations are "not 'consistent with [S]ection 202(a)' of the CAA." Compl., *Ass'n of Int'l Auto. Mfrs.*, ¶ 47; *see id.* ¶ 27.

SUMMARY OF ARGUMENT

Petitioners have asked this Court to determine whether the EPA acted properly in denying a rulemaking petition to regulate carbon dioxide and other pollutants

associated with climate change under Section 202 of the CAA. Specifically, Petitioners contend that the EPA improperly concluded that it was without authority to regulate motor vehicle emissions of climate change pollutants, and that the EPA exceeded its statutory authority under Section 202 by considering factors outside those permitted under the statutory mandates. They have asked this Court to reverse the judgment of the Court of Appeals so that the agency can consider the issues based on the proper statutory factors.

For the reasons provided by Petitioners, the Amici States agree that the EPA acted improperly in concluding that it was without authority to regulate emissions of climate change pollutants from motor vehicles, and that the EPA failed to properly consider the statutory factors in making its decision. Before reaching those merits issues, however, Amici States urge the Court not to be diverted from the questions presented in this case by concerns over Petitioners' standing since Petitioner States have standing to bring this suit for at least two reasons.

First, as Judge Tatel concluded below, *see* 415 F.3d at 64-66, the Petitioner States are likely to suffer and incur the costs of several effects of climate change, which include everything from loss of unique state lands and unique sources and bodies of water within each State, to particular damages resulting from weather-related disasters that each State is likely to suffer. *See* Br. of Petrs. at 5-6 ("effects include . . . inundation of an appreciable portion of coastal States' territory; damage to publicly owned coastal facilities and infrastructure; additional emergency response costs caused by more frequent and intense storm surges and floods; and shrinking water

supplies due to reduced snowpack" (footnotes omitted)). The EPA's decision not to regulate motor vehicle emissions of pollutants associated with climate change exacerbates the damages to each State resulting from climate change because, even if not preempted from taking action, States are, at best, only able to regulate the limited number of emissions sources within their borders. The EPA's authority to regulate nationwide would provide for more effective regulation of emission sources, which would in turn likely lessen the States' losses.

The second ground on which to find standing, which is the central focus of this brief, is that Petitioner States are harmed by the EPA's decision because it intrudes on their sovereignty by subjecting them to claims that they are prevented from regulating motor vehicle emissions as the CAA permits. States have a sovereign interest when the federal government limits their ability to create and enforce their own laws. Although the federal government has the "undoubted power" to trump state law in many instances, *Geier v. American Honda Motor Co.*, 529 U.S. 861, 887 (2000) (Stevens, J., dissenting), the CAA reflects a respect for state sovereignty with regard to motor vehicle emissions standards. In particular, Section 209 allows California to set its own motor vehicle emissions standards so long as those standards are at least as protective as federal standards and are, among other things, consistent with Section 202(a) of the CAA. 42 U.S.C. § 7521(a). In addition, Section 177 allows other States to adopt standards identical to California's. 42 U.S.C. § 7507.

California has adopted motor vehicle standards limiting emissions of climate change pollutants, and other States have adopted those standards as the CAA allows. In several pending cases, however, plaintiffs have asserted

that those standards are preempted by the EPA's decision. In particular, plaintiffs claim that if the EPA is without authority to regulate emissions of pollutants associated with climate change from motor vehicles, California likewise cannot regulate them. The EPA's decision therefore has and will continue to lead to the concrete claims of preemption against States with respect to their efforts to deal with emissions related to climate change, and those concrete claims threaten the States' ability to create and enforce their own law. If this Court were to reverse the judgment of the Court of Appeals – as requested by Petitioners – the EPA's decision would no longer have any preemptive effect. Accordingly, the Court should conclude that the Petitioner States have standing to bring this suit.

ARGUMENT

"States have an interest, as sovereigns, in exercising 'the power to create and enforce a legal code.'" *Alaska v. U.S. Dep't of Transp.*, 868 F.2d 441, 443 (D.C. Cir. 1989) (quoting *Alfred L. Snapp & Son, Inc. v. Puerto Rico*, 458 U.S. 592, 601 (1982)). When an administrative agency makes a decision that has the potential to preempt state law, States affected by that decision have the requisite Article III interest and injury for the purposes of determining standing. *See id.*; *Florida v. Weinberger*, 492 F.2d 488, 494 (5th Cir. 1974).

The Petitioner States have standing to bring this action because the EPA's decision not to regulate carbon dioxide and other pollutants associated with climate change under Section 202 has led to actual claims that California and the States that adopt California's standards

are precluded from doing so. Although Amici States do not believe that the underlying agency decision in this case preempts California's or any other State's ability to regulate motor vehicle emissions of carbon dioxide and other pollutants contributing to climate change, the injury that results from the claims is clear and distinct. Because these colorable claims of preemption interfere with the States' ability to create and enforce their own law, the injury to the States is actual and concrete, not fanciful, hypothetical, speculative, or conjectural.[3]

I. State Efforts to Regulate Emissions of Climate Change Pollutants Are Threatened by Claims of Preemption

State law can be preempted by federal regulations and other administrative decisions just as it can be preempted by federal statutes. *See Louisiana Public Serv. Comm'n v. F.C.C.*, 476 U.S. 355, 369 (1986) ("Pre-emption may result not only from action taken by Congress itself; a federal

[3] The plaintiffs in the California suit claim that California's regulations are also preempted by the federal fuel economy program, reflected in the corporate average fuel economy (CAFE) standards. *See* First Amended Compl., *Cent. Valley Chrysler-Jeep, Inc. v. Witherspoon*, No. 1:04-cv-06663-REC-LJO (E.D. Cal. Feb. 16, 2005), ¶¶ 112-18. But the fact that there may be other bases on which to claim that the California standards are preempted does not change the injury suffered by the States as a result of the EPA's decision, or the fact that those injuries will be redressed by a decision invalidating the EPA's action. If plaintiffs are correct with respect to the CAFE standards, the California standards would be preempted only to the extent that they impermissibly interfere with the CAFE standards. The preemption analysis of that claim is quite different from, and may have different results than, the analysis of the claim that California cannot set any motor vehicle emissions standards for climate change pollutants whatsoever as a result of the EPA's decision in this case.

agency acting within the scope of its congressionally delegated authority may pre-empt state regulation."); *Hillsborough County v. Automated Med. Labs., Inc.*, 471 U.S. 707, 713 (1985) ("We have held repeatedly that state laws can be pre-empted by federal regulations as well as by federal statutes."); *Fidelity Fed. Sav. and Loan Ass'n v. de la Cuesta*, 458 U.S. 141, 153 (1982) ("Federal regulations have no less pre-emptive effect than federal statutes.").

In general, federal administrative decisions might preempt state law in one of two ways. First, an agency may preempt state and local law by explicitly stating its intent to preempt in its decision. But "a federal agency may pre-empt state law only when and if it is acting within the scope of its congressionally delegated authority . . . [because] an agency literally has no power to act, let alone pre-empt the validly enacted legislation of a sovereign State, unless and until Congress confers power upon it." *Louisiana Public Serv. Comm'n v. F.C.C.*, 476 U.S. at 374. In other words, in order to preempt, the agency cannot simply say it is so; Congress must expressly give the agency the authority to do so. *See City of New York v. F.C.C.*, 486 U.S. 57, 66-68 (1988).

An administrative decision might also preempt even where the agency has not explicitly stated its intent to do so, but only if the agency decision was within the authority granted to it by Congress and either it is "impossible for a private party to comply with both state and federal requirements," *English v. Gen. Elec. Co.*, 496 U.S. 72, 79 (1990), or it stands "as an obstacle to the accomplishment and execution of" important federal objectives, *Hines v. Davidowitz*, 312 U.S. 52, 67 (1941). For example, in *Geier v. American Honda Motor Co.*, 529 U.S. 861 (2000), an individual

was injured when his car collided with a tree. Consistent with the applicable safety regulation issued by the Department of Transportation, the car was not equipped with airbags or any other passive restraints. *Id.* at 865. The individual nevertheless brought a state tort claim against the car manufacturer claiming that the car was negligently and defectively designed because it was not equipped with a driver's side airbag. *Id.*

The Court concluded that the safety regulation promulgated by the Department of Transportation preempted the common law action that would have imposed a duty on the manufacturer to install an airbag because "the standard deliberately provided the manufacturer with a range of choices among different passive restraint devices," *id.* at 875, and that range of choices would have been upset by a state-imposed requirement that the manufacturer must install an airbag, *id.* at 881. This was true, the Court held, notwithstanding the fact that the safety standard said nothing about preemption. *See id.* at 892 (Stevens, J., dissenting); *see also Fidelity Fed. Sav. and Loan Ass'n v. de la Cuesta*, 458 U.S. at 156 (concluding that a regulation promulgated by the Federal Home Loan Bank Board, which permitted federally chartered savings and loan associations to exercise the due-on-sale clause of a mortgage, preempted the application of a contrary state doctrine).

It is also possible for an agency decision not to act to preempt state law. *Sprietsma v. Mercury Marine*, 537 U.S. 51, 66 (2002) (the Court has "recognized that 'a federal decision to forgo regulation in a given area may imply an authoritative federal determination that the area is best left unregulated, and in that event would have as much pre-emptive force as a decision to regulate'") (quoting *Ark.*

Elec. Coop. Corp. v. Ark. Pub. Serv. Comm'n, 461 U.S. 375, 384 (1983)); *Bethlehem Steel Co. v. N.Y. State Labor Relations Bd.*, 330 U.S. 767, 774 (1947) (state law is preempted "where failure of the federal officials affirmatively to exercise their full authority takes on the character of a ruling that no such regulation is appropriate or approved pursuant to the policy of the statute"). Relying on this principle, in *Ray v. Atlantic Richfield Company*, 435 U.S. 151, 178 (1978), the Court concluded that the agency's decision not to "promulgate a ban on the operations of oil tankers in excess of 125,000 [dead weight tons]" was the equivalent of ruling that no such regulation is appropriate, and thus the Washington state law that incorporated such a ban was preempted.

Like the decision in *Geier*, the EPA's decision in this case does not explicitly state its intent to preempt. And like *Ray*, the EPA's decision is effectively one to do nothing. It might therefore preempt the States' efforts to regulate climate change pollutants. In order to fully understand this potential conflict, however, we turn to the motor vehicle emissions provisions of the CAA.

In contrast to stationary sources, the CAA expressly preempts a State's authority to regulate emissions from certain mobile sources. In particular, Section 209(a) of the CAA prohibits States from regulating emissions from new motor vehicles. *See* 42 U.S.C. § 7543(a). Not all state regulation in this area is foreclosed, however; Section 209(b)(1) allows eligible States to apply for a waiver from federal preemption. *See* 42 U.S.C. § 7543(b)(1). As the only State eligible for such a waiver, California is the lone State with authority to regulate motor vehicle emissions. *See Motor Vehicle Mfrs. Ass'n v. N.Y. State Dep't of Envtl. Conservation*, 17 F.3d 521, 525-26 (2d Cir. 1994) (explaining in

detail the history of the CAA amendments and describing California's authority).

Other States, however, may "piggyback" onto California's exemption by adopting emissions standards identical to those implemented by California. *See* 42 U.S.C. § 7507; *see also Motor Vehicle Mfrs. Ass'n*, 17 F.3d at 525. Under this framework, California is effectively the gateway to the States' ability to adopt standards different from the federal standards for motor vehicle emissions. In this case, therefore, because the EPA has refused to regulate emissions of pollutants associated with climate change from motor vehicles, California's standards are the only ones available to the States that desire to regulate such emissions.[4]

Notwithstanding California's explicit exception to preemption under Section 209(b), the possibility of preemption remains, as California's history in the area of motor vehicle regulation amply demonstrates. Indeed, California's attempts to regulate motor vehicle emissions or motor fuels have come under fire in several preemption challenges with mixed results. *See, e.g., Oxygenated Fuels Ass'n v. Davis*, 331 F.3d 665 (9th Cir. 2003) (challenging California ban on methyl tertiary-butyl ether (MTBE) as a fuel additive; *Cent. Valley Chrysler-Plymouth v. Cal. Air Resources Bd.*, No. CV-F-02-5017, 2002 U.S. Dist. LEXIS

[4] This should not be understood to foreclose the possibility that the EPA's determination that the regulation of emissions of climate change pollutants are beyond the scope of its authority under the Clean Air Act might also place such regulation beyond the scope of the Section 209 prohibition. In that event, the States may not be preempted under that section from taking action with respect to emissions of climate change pollutants.

20403 (E.D. Cal. June 11, 2002) (granting preliminary injunction regarding California zero emissions vehicle quota regulations). In particular, the scope of the Section 209(a) prohibition has served as a successful basis for challenging at least one recent attempt to address mobile source emissions. In *Engine Manufacturers Association v. South Coast Air Quality Management District*, 541 U.S. 246, 252 (2004), this Court recently held that certain local regulations governing the purchase or lease of various vehicle fleets were preempted under Section 209(a). As is evident in these cases, resolving preemption challenges is not as clear cut as it might appear at first blush.

II. States Have Standing to Bring Suits When a Decision of a Federal Agency, Like the EPA's Decision Here, May Preempt Their State Law

In order to have standing to bring suit in federal court, a plaintiff must show that she has been injured, that her injury is traceable to the conduct of the defendant, and that a favorable decision will likely redress her injury. *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560-61 (1992).

"[S]tates have standing to protect proprietary and sovereign interests." 13A Charles A. Wright et al., *Federal Practice and Procedure*, § 3531.11 (2006). Indeed, courts have long recognized that a State has standing to sue when it alleges an interest in preserving its sovereignty and that interest has been interfered with or diminished. *See, e.g., Bowen v. Pub. Agencies Opposed to Soc. Sec. Entrapment*, 477 U.S. 41, 51 n.17 (1986). One such sovereign interest is "the power to create and enforce a legal code." *Alfred L. Snapp & Son, Inc. v. Puerto Rico*, 458 U.S. at 601; *see also Maine v. Taylor*, 477 U.S. 131, 137 (1986);

Diamond v. Charles, 476 U.S. 54, 65 (1986); *cf. Matter of Dunn*, 988 F.2d 45, 47 (7th Cir. 1993) (State had standing to appeal judgment holding one of its statutes preempted even if no other party seeks review).

In cases like this one, when administrative decisions have the potential to preempt state law and thus interfere with the State's interest in creating and enforcing its own legal code, States are injured, and it is the administrative decision that causes that injury. *See Alaska v. U.S. Dep't of Transp.*, 868 F.2d 441, 443 (D.C. Cir. 1989); *Florida v. Weinberger*, 492 F.2d 488, 494 (5th Cir. 1974). Moreover, if struck down, the administrative decision would have no preemptive effect, and thus a favorable decision by a court to grant a petition for review of that decision would redress the State's injury. *See Nat'l Ass'n of State Utility Consumer Advocates v. F.C.C.*, Nos. 05-11682, 05-12601, ___ F.3d ___, 2006 WL 2105992 (11th Cir. July 31, 2006) (concluding that regulations exceeded the authority delegated to the agency by statute and therefore did not preempt state law); *Wyoming v. Hoffman*, 423 F. Supp. 450, 453 (D. Wyo. 1976) ("[P]rior to the adoption of the challenged regulations the individual states controlled dredge and fill activities in those waters which now require Section 404 permits but which were not subject to traditional navigational servitudes. The federal government, as a result of the regulations, now assumes this authority. If a final determination finds the regulations are invalid, the State would regain its authority to regulate these activities. The State thus has a stake in the outcome which can only be decided by a determination as sought in the complaint.").

One central issue is determining when an agency decision presents a sufficient question of preemption for

the purposes of serving as an "injury in fact" under the Article III analysis. The injury, as the Court noted in *Lujan*, must be "concrete and particularized" as well as "actual or imminent, not conjectural or hypothetical." 504 U.S. at 560.

On the one hand, it appears to be clear that a State could not rely on a frivolous or fanciful claim of potential preemption in order to claim injury. On the other hand, a State need not show preemption conclusively in order for an agency decision to give rise to a claim of injury. Rather, without disagreement, the circuit courts have long held that colorable claims of preemption are sufficient to serve as the basis for a State's Article III injury.

For example, in *Florida v. Weinberger*, the Secretary of the United States Department of Health, Education and Welfare promulgated a regulation regarding "what sort of a state licensing board for nursing home administrators will qualify for the Medicaid program. The major revision of the original definition alters it so that a board containing a majority of nursing home administrators will no longer pass muster." 492 F.2d at 490. Florida challenged the regulation, asserting that the Department was without statutory authority to pass such a regulation. *Id.* at 491. Florida claimed that it had standing to bring such a challenge because Florida's own law permitted a board containing a majority of nursing home administrators. *Id.* at 490. The court agreed with Florida and concluded that the State had standing because "[t]here is nothing abstract about this disagreement, and the Secretary has set a collision course with Florida law in a formal and final regulation which is backed by grave sanctions and which demands, if valid, immediate compliance." *Id.* at 492.

Likewise, in *Alaska v. U.S. Department of Transportation*, 868 F.2d at 443, twenty-seven States challenged advertising regulations promulgated by the Department of Transportation on the ground that the Administrative Procedure Act required that notice and comment procedures be employed when the regulations were promulgated, and the Department had failed to follow those procedures. When the Department questioned the States' standing to bring the action, the court concluded that the States had standing because the agency "claim[ed] that its rules preempt state consumer protection statutes." 868 F.2d at 443. It did not matter that the Department claimed that none of the States' laws would in fact prohibit what the contested regulation permitted. *See id.* Because the States had pointed to colorable claims of preemption based on the Department's decision, the States had standing to seek review. *Id.* at 444; *see also Ohio ex rel. Celebrezze v. U.S. Dep't of Transp.*, 766 F.2d 228, 232-33 (6th Cir. 1985) (concluding that Ohio had standing to seek judicial review of a federal regulation which claimed to expressly invalidate an Ohio state statute); *cf. Conference of State Bank Supervisors v. Conover*, 710 F.2d 878, 880 n.3 (D.C. Cir. 1983) (concluding that state government officials had standing to challenge regulation that preempted inconsistent state law).

Although this Court has never commented on this issue directly, it has on several occasions reached the merits of States' challenges to potentially preemptive agency decisions without noting any obstacle to the States' standing to bring such actions. This is true regardless of the ultimate outcome of the State's challenge. *See, e.g., New York v. F.E.R.C.*, 535 U.S. 1 (2002) (States challenged FERC order preempting local and state law regarding

unbundled retail transmissions; Court found for FERC); *Louisiana Public Serv. Comm'n v. F.C.C.*, 476 U.S. 355 (1986) (States sought review of FCC order that claimed to preempt state law; Court decided in favor of States). As such, the circuit court cases finding standing on the basis of colorable preemption claims are in accord with this Court's precedent.

In this case, just as in the *Weinberger* case, there is "nothing abstract," 492 F.2d at 492, about the injury to the States' sovereign interests resulting from the preemption claims asserted against them. As explained above, a claim of preemption based on the EPA's decision has already been asserted against the California standards. Likewise, the plaintiffs in cases filed against Rhode Island and Vermont assert preemption claims of those States' adoption of the California standards solely based on the EPA's decision. Accordingly, the injury here is not fanciful, hypothetical, or conjectural; it is concrete and actual.

Moreover, the preemption claims in these instances are colorable, not frivolous. Plaintiffs have asserted that Section 209(b) itself does not allow for an exception to preemption because the California's standards are not "consistent with" Section 202. *See* 42 U.S.C. § 7543(b)(1)(C). That is, plaintiffs claim that, the standards are not consistent with the EPA's decision under Section 202 that it is without authority to regulate emissions of climate change pollutants from motor vehicles. Although the Amici and Petitioner States disagree with the plaintiffs' interpretation of the relevant statutory provisions, and neither the Petitioner States nor the Amici States believe that the EPA's decision in this case preempts their efforts, the claims of preemption are not without legal basis.

Given these colorable and concrete preemption claims, there can be no doubt that Petitioners California, Vermont, and Rhode Island have suffered actual injury sufficient to give them standing. In addition, the EPA's decision is the cause of their injury, and the injury will be redressed if this Court grants Petitioners' request to reverse the judgment of the Court of Appeals because the EPA's decision would no longer have any preemptive effect. Accordingly, because the same relief is sought by all Petitioners and at least three Petitioners have standing to bring this suit, the Article III requirements have been satisfied. *See Rumsfeld v. Forum for Academic and Institutional Rights, Inc.*, 126 S. Ct. 1297, 1303 n.2 (2006) (noting that "the presence of one party with standing is sufficient to satisfy Article III's case-or-controversy requirement" and citing lower court's reliance on *Bowsher v. Synar*, 478 U.S. 714, 721 (1986)).

CONCLUSION

For the foregoing reasons, the decision of the Court of Appeals concluding that the State Petitioners have standing under Article III to bring this suit should be affirmed and, for the reasons provided by Petitioners, the judgment of the Court of Appeals should be reversed.

Respectfully submitted,

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Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, *et al.*,

Respondents.

ON WRIT OF CERTIORARI TO THE
UNITED STATES COURT OF APPEALS FOR THE
DISTRICT OF COLUMBIA CIRCUIT

BRIEF OF ASPEN SKIING COMPANY AMICUS CURIAE IN SUPPORT OF PETITIONERS

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42 U.S.C. § 7521(a)(1) 2

42 U.S.C. § 7602(h) 3

Other Authorities:

Aspen Global Change Institute, *Climate Change and Aspen: An Assessment of Impacts and Potential Responses*, (2006), pp. 75-78; available at http://www.agci.org/aspenStudy.html (last visited Aug. 23, 2006) 5, 6

Colorado College State of the Rockies Project, *The 2006 Colorado College State of the Rockies Report Card*, Hecox, W., Hurlbutt, B., O'Brady, C., ed., April 2006, pp. 89-102, available at http://www.coloradocollege.edu/stateoftherockies/06ReportCard.html (last visited Aug. 23, 2006) 3, 4, 5

Colorado Ski Country USA, Economic Impact Study, March 2004 1

Cited Authorities

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Intergovernmental Panel on Climate Change, "Climate Change 2001: Impacts, Adaptation, and Vulnerability" (2001), available at http://www.grida.no/climate/ipcc_tar/wg2/index.html (last visited Aug. 23, 2006) 4

National Assessment Synthesis Team, U.S. Global Change Research Program, U.S. Dept. of the Interior, *Climate Change Impacts on the United States: The Potential Consequences of Climate Variability and Change*, (2000); available at http://www.usgcrp.gov/usgcrp/Library/nationalassessment/overviewwater.htm (last visited Aug. 23, 2006) 5

INTEREST OF *AMICUS CURIAE*[1]

The Aspen Skiing Company ("ASC") is the owner and operator of four major destination ski and winter recreation complexes located in the central Rocky Mountain region of Colorado, spanning over 5,200 acres of skiable terrain on four mountains – Aspen Mountain, Snowmass, Aspen Highlands, and Buttermilk Mountain. In conjunction with its mountain operations, ASC also owns and operates two hotels and fifteen restaurants. ASC is a major contributor to the economy of Pitkin County and surrounding areas of central Colorado, generating over a million skier visits annually from around the world and employing approximately 800 persons year-round and over 3,400 employees during the winter season.

ASC is part of the larger Colorado ski and winter recreation economy, which generates well over $2 billion in revenues annually from mountain operations and associated businesses in surrounding communities. With well in excess of ten million skier visits annually (almost 60% coming from out-of-state and international locations), the Colorado ski resorts collectively employ nearly 31,000 people – approximately 14% of the total tourism-related jobs in Colorado and 8% of all employment in the state.[2]

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1. Pursuant to Supreme Court Rule 37.6, *Amicus* states that its designated counsel authored this brief in whole, and that no person or entity other than this *Amicus Curiae* made a monetary contribution to the preparation or submission of this brief. The parties' consent, other than the Solicitor General, to the filing of this *amicus curiae* brief has been lodged with the Clerk of the Court. The consent of the Solicitor General is being lodged herewith.

2. The data in this paragraph was provided by Colorado Ski Country USA, Economic Impact Study, March 2004.

As an industry highly dependent upon a high alpine ecosystem – ASC's mountain elevations ranging from a low of 7,870 feet above sea level at the base of Buttermilk Mountain to a high of 12,510 feet at the summit of Snowmass – and an ample seasonal snowpack, ASC's operations, and the Colorado winter recreation economy in general, are obviously extremely vulnerable to the adverse impacts of climate change. As explained below, ASC is already experiencing these impacts, and the prognosis under "business-as-usual" scenarios that fail to address air pollutants associated with climate change is bleak. For this reason, ASC supports the position of the Petitioners in this case.

SUMMARY OF THE ARGUMENT

The Administrator of the Environmental Protection Agency has the authority to regulate carbon dioxide and other air pollutants associated with climate change under section 202(a)(1) of the Clean Air Act, 42 U.S.C. § 7521(a)(1). The air pollutants in question "may reasonably be anticipated to endanger public health or welfare" through their climatological impact upon the viability of an entire recreational industry and associated economies.

ARGUMENT

Section 202(a)(1) of the Clean Air Act (the "Act"), 42 U.S.C. § 7521(a)(1), directs the Administrator of the Environmental Protection Agency to prescribe by regulation "standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare."

Congress has specified that "all language referring to effects on welfare" in the Act "includes, but is not limited to, effects on . . . weather, . . . climate, . . . as well as effects on economic values. . . ." 42 U.S.C. § 7602(h) (section 302(h) of the Act).

To the degree that air pollutants may cause or contribute to a climate change resulting in temperature increases in alpine environments, in Colorado and elsewhere, it is indisputable that the ski and winter mountain recreation industry will be impacted. With this impact will come derivative impacts upon the economies of associated communities and regions of the country.

A recent report from Colorado College[3] presents a downscaled climate model run on a regional scale for the eight-state Rocky Mountain region[4] derived from two different global general circulation climate models predicting the impact of climate change pollutants – the Parallel Climate Model (PCM) and Hadley Centre Climate Model (HadCM3). The former (more conservative) model predicts annual temperature increases across the region of 3 degrees Celsius to 5 degrees Celsius between 1976 and 2085, while the latter (mid-range) model predicts annual temperature increases over the same period of 5 degrees Celsius to 7 degrees Celsius.[5]

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3. The Colorado College State of the Rockies Project, *The 2006 Colorado College State of the Rockies Report Card*, Hecox, W., Hurlbutt, B., O'Brady, C., ed., April 2006, pp. 89-102, available at *http://www.coloradocollege.edu/stateoftherockies/06ReportCard.html* (last visited Aug. 23, 2006) (hereinafter "CC").

4. Idaho, Montana, Wyoming, Colorado, New Mexico, Arizona, Utah, and Nevada.

5. CC, n. 3, *supra*, at 92.

Running the mid-range HadCM3 model for two different emission scenarios – denominated "business-as-usual" and "reduced-emissions" – included in a 2001 report by the Intergovernmental Panel on Climate Change (IPCC),[6] the Colorado College report predicts temperature increases across most of the Rocky Mountains of 5 to 7 degrees Celsius under the "business-as-usual" scenario compared with 3 to 4 degrees Celsius under the "reduced-emissions" scenario.[7] The increase in winter temperatures under these scenarios is predicted to be 3 to 6 degrees and 1 to 5 degrees Celsius respectively.[8]

While the differentials recited above may not seem great at first blush, the Colorado College report predicts that the increase in winter temperatures "may cause several melting periods during the winter, and will have a great impact on the snowpack of the Rocky Mountain region."[9] This will cause the snowline to recede to higher elevations[10] and likely shorten the operational season for winter recreation resorts.[11] ASC's Chief Executive Officer states in the Colorado College report that a compression of a few dozen days in the ski season under current conditions would render the resort

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6. IPCC, "Climate Change 2001: Impacts, Adaptation, and Vulnerability" (2001), available at *http://www.grida.no/climate/ipcc_tar/wg2/index.html* (last visited Aug. 23, 2006).

7. CC, n.3, *supra*, at 93.

8. *Id.*

9. *Id.* at 94.

10. *Id.*

11. *Id.* at 99.

unprofitable, resulting in "an economic disaster."[12] The Colorado College report concludes that winter recreation resorts like Aspen could potentially become "unviable" by the year 2050.[13]

The predictions presented in the Colorado College report are echoed by the U.S. Global Change Research Program: "Snowpack is very likely to decrease as the climate warms, despite increasing precipitation, for two reasons. It is very likely that more precipitation will fall as rain, and that snowpack will develop later and melt earlier."[14] While snowmaking may provide a hedge to some degree, it is both expensive and a potentially heavy drain upon available water resources.[15] Early and late season mountain operations "are especially sensitive to temperature,"[16] resulting in the "compression" of the operating season noted above. While operating and economic predictions vary, it is likely even under optimistic analyses that a week will be shorn off the

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12. *Id.*

13. *Id.*

14. National Assessment Synthesis Team, U.S. Global Change Research Program, U.S. Dept. of the Interior, *Climate Change Impacts on the United States: The Potential Consequences of Climate Variability and Change*, (2000); available at *http://www.usgcrp.gov/usgcrp/Library/nationalassessment/overviewwater.htm* (last visited Aug. 23, 2006).

15. Aspen Global Change Institute, *Climate Change and Aspen: An Assessment of Impacts and Potential Responses*, (2006), pp. 75-78; available at *http://www.agci.org/aspenStudy.html* (last visited Aug. 23, 2006).

16. *Id.* at 78.

season by 2030, and anywhere from four to over nine weeks by the year 2100 under current climate change projections.[17] The economic consequences even by 2030 could range from $16 million to $56 million in personal income.[18] The economic impact would likely be exacerbated by volatility, *i.e.*, step-like climate changes and clumps of bad years.[19] By 2100, the Aspen Global Change Institute concludes that "it seems doubtful that assured, high-quality, destination skiing can be maintained as Aspen's winter *raison d'etre*," with even summer resort prospects less than clear.[20] And Aspen (and ASC) are deemed to be in a much stronger position economically and geographically to withstand and adapt to the impact of climate change than most other winter recreation areas in the country.[21]

While one may debate, to some degree, the severity of the prognosis for the winter recreation industry and its associated and dependent communities, the effects of climate change are already being experienced at Aspen and elsewhere. Over the past twenty-five years, Aspen has watched its total precipitation decrease by 6 percent, with snowfall decreasing by 16 percent (17 percent above 10,600 feet).[22] Average temperatures have already increased by about 3 degrees

17. *Id.* at 80.

18. *Id.*

19. *Id.* at 80-81.

20. *Id.* at 81.

21. *Id.* at 73-74.

22. *Id.* at xv.

Fahrenheit (1.5 degrees Celsius) over the same period and frost-free days have increased approximately 20 days per year.[23] The prognoses are in line with the historical trends. The impact of climate change is current, and well underway.

The present effects of climate change upon the alpine winter recreation industry – and businesses like ASC and the communities of which they are an integral part – are very real. The future, particularly under "business-as-usual" scenarios, appears anywhere from difficult to economically disastrous depending upon the predictive model employed. To the degree that air pollutants cause *or contribute to* climate change, it is respectfully submitted that it is well within the authority of the Administrator to regulate them.

CONCLUSION

For the foregoing reasons, ASC supports the position of the Petitioners and requests that the judgment of the United States Court of Appeals for the District of Columbia Circuit be reversed.

Respectfully submitted,

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23. *Id.*

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In the Supreme Court of the United States

COMMONWEALTH OF MASSACHUSETTS, *et al.*,
Petitioners,

v.

U.S. ENVIRONMENTAL PROTECTION AGENCY, *et al.*,
Respondents.

On Writ of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

BRIEF OF *AMICI CURIAE* CLIMATE SCIENTISTS DAVID BATTISTI, WILLIAM E. EASTERLING, CHRISTOPHER FIELD, INEZ FUNG, JAMES E. HANSEN, JOHN HARTE, EUGENIA KALNAY, DANIEL KIRK-DAVIDOFF, PAMELA A. MATSON, JAMES C. MCWILLIAMS, MARIO J. MOLINA, JONATHAN T. OVERPECK, F. SHERWOOD ROWLAND, JOELLEN RUSSELL, SCOTT R. SALESKA, EDWARD SARACHIK, JOHN M. WALLACE, AND STEVEN C. WOFSY IN SUPPORT OF PETITIONERS

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Murray v. *Schooner Charming Betsy*, 6 U.S. 64 (1804) .. 24

Massachusetts v. *EPA*, 415 F.3d 50 (D.C. Cir. 2005) 3, 22, 25

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42 U.S.C. 1857f-6c(c)(1)(A), currently codified as amended at 42 U.S.C. 7545(c)(1)(A) 25

Control of Lead Additives in Gasoline, 38 Fed. Reg. 33,734 (Dec. 6, 1973) 25

Control of Emissions From New Highway Vehicles and Engines, 68 Fed. Reg. 52,922 (Sept. 8, 2003) 3, 18-21, 29

Constitution, Statutes, Administrative, and Other Legal Materials (cont'd) **Page**

United Nations Framework Convention on Climate Change, May 9, 1992, 1771 U.N.T.S. 107 24

Miscellaneous

Erica Beecher-Monas, *The Heuristics of Intellectual Due Process: A Primer for Triers of Science*, 75 N.Y.U. L. Rev. 1563 (2000) 18

J.C. Comiso, *Arctic Warming Signals from Satellite Observations*, 61-3 Weather 70 (2006) 16

Dan B. Dobbs, *The Law of Torts* § 19 (2000) 23

J. Hansen, M. Sato, R. Ruedy, K. Lo, D.W. Lea & M. Medina-Elizade, *Global Temperature Change*, Proc. Natl. Acad. Sci. (forthcoming) 16

Emma J. Hutchinson & Peter J. G. Pearson, *An Evaluation of the Environmental and Health Effects of Vehicle Exhaust Catalysts in the United Kingdom*, 112 (2) Envtl. Health Persp. (Feb. 2004) 27

Intergovernmental Panel on Climate Change, *Technical Summary of the Working Group I Report of the Intergovernmental Panel on Climate Change* (2001)10-11,13

Joint Science Academies' Statement: Global Response to Climate Change (June 2005) 16

National Academy of Sciences/National Research Council, *Surface Temperature Reconstructions for the Last 2,000 Years* (2006) 2

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National Academy of Sciences/National Research Council, *Abrupt Climate Change: Inevitable Surprises* (2002) . *passim*

National Academy of Sciences/National Research Council, *Climate Change Science: An Analysis of Some Key Questions* (2001) ..... *passim*

Isaac Newton, *Principia Mathematica Philosophiae Naturalis* (W.A. Kaminski trans., World Sci. 1987) (1729) 19

Robert C. Power, *Reasonable and Other Doubts*, 67 Tenn. L. Rev. 45 (1999) 23

Susan E. Schober, Lisa B. Mirel, Barry I. Graubard, Debra J. Brody, & Katherine M. Flegaldoi, *Blood Lead Levels and Death from All Causes, Cardiovascular Disease, and Cancer: Results from the NHANES III Mortality Study*, 10.1289 Envtl. Health Persp. 9123 (2006) 26

U.S. Climate Change Science Program, *Temperature Trends in the Lower Atmosphere: Steps for Understanding and Reconciling Differences* 1 (Apr. 2006) 17

INTEREST OF THE *AMICI CURIAE*[1]

Amici Curiae Climate Scientists are David Battisti, William E. Easterling, Christopher Field, Inez Fung, James E. Hansen, John Harte, Eugenia Kalnay, Daniel Kirk-Davidoff, Pamela A. Matson, James C. McWilliams, Mario J. Molina, Jonathan T. Overpeck, F. Sherwood Rowland, Joellen L. Russell, Scott R. Saleska, Edward Sarachik, John M. Wallace, and Steven C. Wofsy (hereinafter "Climate Scientists").[2] The Climate Scientists are individual climate scientists who are actively involved in research on changes to the Earth's climate that are being caused by anthropogenic emissions of carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, hydrofluorocarbons, and perfluorocarbons ("greenhouse gases" or "GHGs") and the effects of those changes. Most of these scientists are members of the National Academy of Sciences ("NAS")[3] or Engineering, or have served on one or more of the recent National Academy of Sciences/National Research Council ("NAS/NRC") panels that have

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[1] All parties have consented to the filing of this brief. Pursuant to this Court's Rule 37.6, *Amici* state that no counsel for any party in this case authored this brief in whole or in part, and no person other than *Amici* and their counsel has made a monetary contribution to the preparation and submission of this brief.

[2] The Climate Scientists are appearing in their individual capacity and not as representatives of any institution with which any of them is affiliated. The assertions of science in this brief have been drafted, reviewed and approved by the Climate Scientists, representing a distillation of the conclusions set forth in *Climate Change Science* and other scientific reports cited herein.

[3] "The National Academy of Sciences ("NAS") is a private, nonprofit, self-perpetuating society of distinguished scholars engaged in scientific and engineering research, dedicated to the furtherance of science and technology and to their use for the general welfare. Upon the authority of a charter granted to it in 1863, the Academy has a mandate that requires it to advise the federal government on scientific and technical matters." J.A. 140, National Academy of Sciences/National Research Council, Preface to *Climate Change Science: An Analysis of Some Key Questions* (2001) ["*Climate Change Science*" or "NAS/NRC 2001 Report"].

reviewed the state of the science on climate change and the impacts of human activities on climate.[4] The first of these, *Climate Change Science: An Analysis of Some of the Key Questions* ("*Climate Change Science*" or "NAS/NRC 2001"), was published in 2001 in response to a request from the White House for an assessment of the areas of greater and lesser certainty in climate change science.[5] The second, *Abrupt Climate Change: Inevitable Surprises* ("*Abrupt Climate Change*" or "NAS/NRC 2002") was published one year later. The third, *Surface Temperature Reconstructions for the Last 2,000 Years* ("*Reconstructions*" or "NAS/NRC 2006"), was published this year in response to a request from Congress. The NRC, the Academy's principal operating arm, was formed in 1916 to further scientific and technological knowledge and to advise the federal government. J.A. 140, *preface to Climate Change Science*.

A. Perspective

As practicing scientists who study the earth's climate system, we and many in our profession have long understood that continued human-caused emission of greenhouse gases – primarily carbon dioxide (CO_2), but also methane (CH_4), nitrous oxide (N_2O), and fluorocarbons – would eventually warm the earth's surface. Most were skeptical that we would see strong signs of human-induced climate change in our lifetimes. But by the beginning of this decade, we observed that global temperatures are rising, plant and animal ranges are shifting, glaciers are in retreat globally, and arctic sea ice is retreating. Sea levels are rising and the oceans are becoming more acidic. To the extent that these changes

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[4] *Id.*; National Academy of Sciences/National Research Council, *Abrupt Climate Change: Inevitable Surprises* (2002) ["*Abrupt Climate Change*" or "NAS/NRC 2002"]; National Academy of Sciences/National Research Council, *Surface Temperature Reconstructions for the Last 2,000 Years* (2006) ["NAS/NRC 2006"].

[5] J.A. 213, *Climate Change Science* at 27 (reprinting Letter from John M. Bridgeland & Gary Edson to Bruce Alberts (May 11, 2001)).

result from human alteration of the atmosphere, we know that they are just the first small increment of climate change yet to come if human societies do not curb emissions of greenhouse gases.

The evidence of these changes, though attended by the uncertainty or caveats that appropriately accompany scientific knowledge, is nonetheless so compelling that it has crystallized a remarkable consensus within the scientific community: climate warming is happening, and human activities are very likely a significant causal factor. The nature of this consensus may be obscured in a public debate that sometimes equates consensus with unanimity or complete certainty. We are profoundly troubled by the misunderstanding or misrepresentation of the current state of knowledge of climate change evident in the United States Environmental Protection Agency's ("EPA's") denial of the petition for rulemaking to regulate emissions of greenhouse gases from mobile sources, Pet. App. A59-A93, Control of Emissions From New Highway Vehicles and Engines, 68 Fed. Reg. 52,922, (Sept. 8, 2003), and the subsequent court of appeals review of that action, Pet. App. 1-58, *Massachusetts* v. *EPA*, 415 F.3d 50 (D.C. Cir. 2005).

EPA and the appeals court stated that they considered the NAS/NRC report *Climate Change Science* to be the scientific authority for the decision to deny the petition to regulate. We feel an obligation to inform this Court that they misunderstood or misrepresented the science contained in this report, to correct the public record as to what *Climate Change Science* and subsequent NAS reports say about climate change, and to offer our professional insight on using scientific evidence to judge whether a particular standard for regulatory action is met in the matter of climate change.

B. Background and Experience

Amicus David Battisti is the Tamaki Professor of Atmospheric Sciences at the University of Washington.

He has a Ph.D. from the University of Washington in the field of atmospheric sciences. He has been involved in the field of climate dynamics and climate change since 1984. His research involves climate variability (El Niño, drought in the Sahel, decadal variability in the climate system), paleoclimate (abrupt climate change during the last glacial period), and climate change. He served for three years on the NAS Committee for Climate Research and for six years was co-chair of the U.S. Climate Variability and Predictability Science Steering Committee.

Amicus William E. Easterling is Professor of Geography and Earth System Science at The Pennsylvania State University. He also directs the Penn State Institutes of the Environment. He received his B.S. (1976), M.S. (1980), and Ph.D (1984) degrees in geography from the University of North Carolina at Chapel Hill. Dr. Easterling is an expert on the implications of climate change for global and regional food security, including the potential for agricultural systems to adapt to such change. He has served on several panels and committees of the National Research Council, including chairing the Panel on the Human Dimensions of Seasonal-to-Interannual Climate Variability. He has served on numerous government advisory committees and task forces.

Amicus Christopher Field is the founding director of the Department of Global Ecology of the Carnegie Institution of Washington and Professor of Biological Sciences at Stanford University. He has a Ph.D. from Stanford University in the field of biological sciences. He has been involved in the study of climate change impacts and the global carbon cycle since 1988. He is a member of the NAS.

Amicus Inez Fung is Professor of Atmospheric Science and Co-Director of the Berkeley Institute of the Environment at the University of California ("U.C.") at Berkeley. Dr. Fung received her Sc.D. from the Massachusetts Institute of Technology ("MIT"). Her research expertise is in large scale numerical modeling of biogeochemical cycles and their interaction with climate. Her research also includes climate change, remote sensing

of earth systems, investigations of atmosphere-ocean interactions, and atmosphere-biosphere interactions. She is a member of the NAS and served on the NAS/NRC's Committee on Climate Change Science that reviewed the state of climate science for President Bush and produced *Climate Change Science*.

Amicus James E. Hansen is head of the NASA Goddard Institute for Space Studies. Dr. Hansen received his Ph.D. from the University of Iowa. His research interests include radiative transfer in planetary atmospheres, development of global climate models, current climate trends from observational data, and projections of man's impact on climate. He is a member of the NAS and served on the NAS/NRC's Committee on Climate Change Science that reviewed the state of climate science for President Bush and produced *Climate Change Science*.

Amicus John Harte is a Professor in the Energy and Resources Group and the Ecosystem Sciences Division of the College of Natural Resources at the U.C. Berkeley. He received a B.A. in physics from Harvard University in 1961 and a Ph.D. in theoretical physics from the University of Wisconsin in 1965. He has been involved in the study of earth system science since 1973 and his research currently focuses on the ecological consequences of climate change and the climate consequences of ecological changes. He has served on six different panels of the NAS/NRC.

Amicus Eugenia Kalnay is a Distinguished University Professor at the University of Maryland. Previously, she was Director of the Environmental Modeling Center at the National Weather Service and Head of the Global Modeling Branch at the NASA Goddard Space Flight Center. She has a Ph.D. in meteorology from MIT. Her research expertise is in numerical modeling of the atmosphere, data assimilation and predictability, El Niño prediction, and applications of satellite remote measurements to weather and climate problems. She is a member of the National Academy of Engineering, and has served on many panels of the NAS/NRC.

Amicus Daniel Kirk-Davidoff is an Assistant Professor in the Department of Meteorology at the University of Maryland. He received a Ph.D. in Meteorology from MIT in 1997. He is a climate dynamicist with interests in the stratospheric water vapor budget, paleoclimate modeling, satellite climate monitoring, and the use of satellite data to improve climate models.

Amicus Pamela A. Matson is the Richard and Rhoda Goldman Professor of Environmental Studies at Stanford University. She has been involved in the study of global change for more than 20 years, focusing on land use change, greenhouse gas production from agricultural ecosystems, and interactions of forest and agricultural ecosystems with the atmosphere and water. She has served on the NRC's Board on Global Change, and is currently co-chair of the NAS Roundtable on Science and Technology for Sustainability.

Amicus James C. McWilliams is the Louis Slichter Professor of Earth Sciences at University of California, Los Angeles. He has a Ph.D. from Harvard University in the field of applied mathematics. He has been involved in the study of oceanic and atmospheric circulations and climate since 1970. He is a member of the NAS and a Fellow of the American Geophysical Union. He served on the NAS/NRC's Committee on Climate Change Science that reviewed the state of climate science for President Bush and produced *Climate Change Science*.

Amicus Mario J. Molina is a Professor at the University of California, San Diego (UCSD), with a joint appointment in the Department of Chemistry and Biochemistry and the Scripps Institution of Oceanography. Prior to joining UCSD he was an Institute Professor at MIT. He received a Ph.D. in Physical Chemistry from the University of California, Berkeley. He has been involved in developing our scientific understanding of the chemistry of the stratospheric ozone layer and its susceptibility to human-made perturbations. He was a co-author, with F. Sherwood Rowland, of the 1974 publication in the British journal *Nature*, on the threat to the ozone layer from

chlorofluorocarbon (CFC) gases, and received the 1995 Nobel Prize in Chemistry (with F. Sherwood Rowland and Paul Crutzen) for his "work on atmospheric chemistry, particularly concerning the formation and decomposition of ozone." He has served on the President's Committee of Advisors in Science and Technology, and on many other advisory boards and panels. He is a member of the NAS, the Institute of Medicine, and the Pontifical Academy of Sciences. He has received numerous awards for his scientific work in addition to the 1995 Nobel Prize in Chemistry, including the Tyler Ecology and Energy Prize in 1983 and the UNEP-Sasakawa Award in 1999.

Amicus Jonathan T. Overpeck is a Professor of Geosciences and a Professor of Atmospheric Sciences at the University of Arizona. He has a Ph.D. from Brown University in the field of geological sciences. He has been involved in the study of climate science since 1979. His research focuses on using models and the climate record of the past million years to understand climate variability and future change. He served on the NAS/NRC Committee that reviewed the state of climate science for President Bush and produced *Abrupt Climate Change*.

Amicus F. Sherwood Rowland is the Bren Research Professor of Chemistry and Earth System Science at U.C. Irvine. He has a Ph.D. in Chemistry from the University of Chicago in the field of Physical Chemistry. He was a co-author, with Mario Molina, of the 1974 publication in the British journal *Nature*, on the threat to the ozone layer from CFC gases, and received the 1995 Nobel Prize in Chemistry (with Mario Molina and Paul Crutzen) for his "work on atmospheric chemistry, particularly concerning the formation and decomposition of ozone." He is a member of the NAS and the Institute of Medicine, and is a Foreign Member of the Royal Society (UK). He served for eight years as the Foreign Secretary of the NAS, and has received the Roger Revelle Medal of the American Geophysical Union, and the Debye Award of the American Chemical Society. He has received numerous prizes for his scientific work on the environment including

the Japan Prize in Environmental Science and Technology and the Tyler Prize in Ecology and Energy. He is a member of the Board on Atmospheric Sciences and Climate of the NRC, and served on the NAS/NRC's Committee on Climate Change Science that reviewed the state of climate science for President Bush and produced *Climate Change Science*.

Amicus Joellen L. Russell is an Assistant Professor of Geosciences at the University of Arizona. She received her B.A. in Environmental Geoscience from the Department of Earth and Planetary Sciences at Harvard University in 1993, and her Ph.D. in Oceanography from the Scripps Institution of Oceanography at UCSD in 1999. Her research focuses on biogeochemical dynamics, the interactions between the biological, geological and chemical components of Earth's environment.

Amicus Scott R. Saleska is an Assistant Professor of Ecology and Evolutionary Biology at the University of Arizona. He received a B.S. in Physics from MIT in 1986 and a Ph.D. in Energy and Resources from the U.C. Berkeley in 1998. His research focuses on how climate interacts with plant physiology, demography, and ecological processes to influence or control biogeochemical cycling from local to global scales.

Amicus Edward Sarachik is a professor in the Department of Atmospheric Sciences and an adjunct professor in the School of Oceanography at the University of Washington. He served on the NAS/NRC Committee on Climate Change Science that reviewed the state of climate science for President Bush and produced *Climate Change Science*.

Amicus John M. Wallace is a Professor in the Department of Atmospheric Sciences at the University of Washington. He has a Ph.D. from MIT in the field of meteorology. He has been involved in the study of climate variability and change since 1980 and his research involves El Niño and other patterns of climate variability. He served on the NAS/NRC's Committee on Climate Change Science that reviewed the state of climate science for

President Bush and produced *Climate Change Science*. He is a member of the NAS and served on both the NAS/NRC Committee that produced *Abrupt Climate Change* and the NAS/NRC committee that produced the report *Reconstructions*.

Amicus Steven C. Wofsy is the Abbott Lawrence Rotch Professor of Atmospheric and Environmental Science at Harvard University. He has a Ph.D. in Chemistry from Harvard University and has studied atmospheric science since 1971, concentrating on the processes that control atmospheric chemical composition, climate change, and the global carbon cycle. He has served on the NASA Advisory Council and many other Federal advisory committees, and was a principal author of the U.S. Carbon Cycle Science Plan.

SUMMARY OF ARGUMENT

The science of climate change indicates that increases in greenhouse gases will almost certainly affect global climate and pose risks to human societies. The NAS/NRC 2001 report, *Climate Change Science*, comprehensively addressed the centrally relevant questions of climate change science, and unambiguously concluded that Earth's climate is changing in ways that risk significant adverse impacts on public welfare. The NAS/NRC report found strong evidence for anthropogenic causation of recent climate change by emissions of CO_2 and other greenhouse gases, and stated that there is a high probability for much larger human-caused climate changes in the future.

EPA claimed to rely on *Climate Change Science* as its sole scientific authority in denying petitioners' request to regulate GHG emissions under Section 202(a)(1) of the Clean Air Act. However, EPA misrepresented the findings of *Climate Change Science* by selectively quoting statements about uncertainty while ignoring statements of certainty and near-certainty, thus giving the appearance of far more

fundamental uncertainty than stated in the NAS/NRC report. EPA then concluded that "it is inappropriate to regulate GHG emissions from motor vehicles" "until more is understood about the causes, extent, and significance of climate change," implying that there is no risk in waiting for future research, a conclusion sharply inconsistent with the plain language of *Climate Change Science*.

In fact, *Climate Change Science* establishes that there was and is sufficient scientific evidence to enable EPA to make a determination under Section 202 (a)(1) of the Clean Air Act that greenhouse gas emissions "may reasonably be anticipated to endanger public health or welfare." Given the protective standard of environmental regulation that Congress codified in Section 202(a)(1),[6] the scientific evidence of the risks, long time lags, and irreversibility of climate change argue persuasively for prompt regulatory action to restrain emissions of greenhouse gases under the Clean Air Act.

ARGUMENT

I. The Science of Climate Change Indicates that It Is Virtually Certain that Greenhouse Gas Emissions from Human Activities Cause Global Climate Changes, Endangering Human Health and Welfare.

Neither EPA nor the court of appeals correctly applied the science of climate change to the petition for rulemaking. In its report in 2001, *Climate Change Science*, a panel of NAS/NRC unambiguously stated that it is virtually certain[7] that greenhouse gas emissions from

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[6] By "protective standard," we refer to measures taken to protect against possible danger or failure. Should EPA regulate GHGs today, the principal effect would be to mitigate harm expected to occur decades hence, not to reduce the impacts of GHGs already emitted.

[7] In our discussion of climate change science, we use the terminology introduced by Intergovernmental Panel on Climate Change Third Assessment Report. Intergovernmental Panel on Climate Change

human activities cause global climate changes. These emissions increase the risk of adverse effects on health and welfare. To aid this Court in understanding the foregoing conclusion, we first clarify what scientific knowledge informs us about anthropogenic climate change.

1. The basic physics underlying the greenhouse effect is firmly established. Two principles in particular are as certain as any phenomena in planetary sciences. First, particular atmospheric gases ("greenhouse gases") absorb radiation that otherwise would be lost to space, and re-radiate it back to the ground. A planet with those gases in its atmosphere is thus warmer at the surface than it would be without them. Second, greater atmospheric concentrations of greenhouse gases, all other things being equal, cause higher temperatures at the surface. The Earth is habitable for its current life forms in part because natural levels of greenhouse gases in the atmosphere warm the surface.

2. Over the last two centuries, it is virtually certain that human activities have increased amounts of important greenhouse gases (primarily CO_2, CH_4, N_2O, and fluorocarbons[8]) in the atmosphere to levels not seen in all

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["IPCC"], *Technical Summary of the Working Group I Report of the Intergovernmental Panel on Climate Change* 28 n.4 (2001) ("In this Technical Summary and in the Summary for Policymakers, the following words have been used where appropriate to indicate judgmental estimates of confidence: virtually certain (greater than 99% chance that a result is true); very likely (90-99% chance); likely (66-90% chance); medium likelihood (33-66% chance); unlikely (10-33% chance); very unlikely (1-10% chance); exceptionally unlikely (less than 1% chance). The reader is referred to individual chapters for more details.").

[8] Water vapor is a greenhouse gas and is an important amplifier of climate change because its atmospheric concentrations tend to increase when the atmosphere and surface waters warm up. Anthropogenic emissions of water vapor to the atmosphere by automobiles and other combustion sources do not significantly affect global atmospheric concentrations of water vapor relative to the natural evaporation and condensation processes, and thus they do not "cause, or contribute," to pollution implicated in anthropogenic climate change. 42 U.S.C. 7521(a)(1).

of prior human experience, and likely not seen for 3 million years.

3. It is likely or very likely[9] that human-induced increases in these greenhouse gases are already causing global climate to warm. Human activities likely caused most of the approximately 0.6 °C (1.1 °F) rise over the 20th century. J.A. 151, *Climate Change Science* at 1. The mean ocean temperature has risen by 0.05 °C (0.09 °F), global average sea level has risen by 0.1 to 0.2 meters (1/3 to 2/3 feet) over the 20th century, and snow cover and Arctic ice have decreased by about 10% and 10-15%, respectively, since the late 1960s (when data first became available for this measurement). *Id.* at 16. A variety of other climate factors are changing consistent with warming induced by greenhouse gases. By contrast, we know of no measures of climate on the global scale that indicate cooling.

4. It is virtually certain that what has been observed so far is only the beginning, and that continued greenhouse gas emissions along current trajectories will cause additional warming of the earth system as a whole. The average time for removal from the atmosphere of added carbon dioxide is measured in centuries. It is very likely that such perturbation would cause the rate of surface warming and sea level rise in the 21st century to be substantially larger and faster than that experienced in the 20th century, without precedent in the past 10,000 years.

5. The first sentences of *Climate Change Science* state:

> Greenhouse gases are accumulating in Earth's atmosphere as a result of human activities, causing surface air temperatures and subsurface ocean temperatures to rise. Temperatures are, in fact, rising. The changes observed over the last several decades are likely mostly due to human activities, but we cannot rule out that some significant part of these changes is also a reflection of natural variability. Human-induced warming and associated sea level rises are expected to continue through the

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[9] See note 7 *supra.*

> 21st century. Secondary effects are suggested by computer model simulations and basic physical reasoning. These include increases in rainfall rates and increased susceptibility of semi-arid regions to drought. The impacts of these changes will be critically dependent on the magnitude of the warming and the rate with which it occurs.

J.A. 151, *Climate Change Science* at 1.

6. Although the general link between increased greenhouse gases in the atmosphere and increased warming of the earth system is virtually certain, the complexity of the climate system means that predictions of specific details that follow from this general link are subject to varying degrees of certainty. Among the more certain predictions are the following:

a. It is likely, based on both models and on data from the ice ages over the last 400,000 years, that if atmospheric carbon dioxide doubled from pre-industrial times, and rose no further, the long-term rise of global average surface temperature (the "climate sensitivity") would be between 1.5 and 4.5 °C (2.7 - 8.1 °F). J.A. 166, *Climate Change Science* at 7.

b. In the absence of emissions reductions, however, carbon dioxide concentrations in the atmosphere are very likely to increase to much more than twice pre-industrial values, and the consequent rise in global average temperature during the 21st century, projected to be 1.4 to 5.8 °C (2.5 to 10.4 °F), will likely continue to higher values beyond the year 2100. IPCC, *Technical Summary*, at 69.

c. This amount of warming in 6.a and 6.b is very likely to drive melting of arctic ice sheets and further increases in global average sea level by 2100, with continued sea-level rise in the decades and centuries following 2100.

d. The anticipated sea level rise, especially when combined with likely increases in hurricane intensities, would exacerbate storm surges and have direct, negative impacts on health and welfare in the United States, and globally. These negative impacts would be concentrated in

low-lying coastal regions, such as Cape Cod, Massachusetts, the Gulf coast, and southern Florida.

e. Rising temperatures are also likely to lead to increases in extreme weather events (especially heat waves, and associated heat-related deaths) and altered patterns of rainfall (*e.g.*, droughts and floods) that will disrupt natural and agricultural ecosystems, and increase the risk of extinction of animal and plant species.

f. Ocean acidity is very likely to increase by several tenths of a pH unit due to continued uptake of carbon dioxide, and this acidification is likely to cause substantial stress to key marine organisms, and hence to whole marine ecosystems, particularly in cold water regions. Although this is an impact of increasing levels of greenhouse gases, it is not an atmospheric climate change and therefore was not addressed in *Climate Change Science*.

g. Ground level ozone ("smog") levels (and associated risks to human health) are very likely to increase with temperature, especially in the Northeastern United States, where many areas currently experience ozone levels that exceed EPA Clean Air Act standards on hot summer days.

7. The possibilities of the climate changes above have been carefully and extensively assessed, and there is a broad scientific consensus that these changes are likely or very likely. This consensus is clearly expressed in *Climate Change Science*. It is harder to determine how long it may take for these changes to occur, and what the precise magnitude of the impacts may be. The climate system has a great deal of inertia (especially in the ice sheets and oceans), and thus the effects of greenhouse gases already in the atmosphere are delayed. Emissions of GHGs commit the climate to future warming long after release to the atmosphere.

8. Apart from the likely, very likely, and virtually certain gradual climate changes outlined in points 1-7, there is also an as yet unquantifiable probability that continued greenhouse gas emissions will trigger abrupt climate change surprises that could very rapidly impose large impacts on ecosystems and human welfare and

health. The NAS/NRC issued a detailed report (*Abrupt Climate Change*) on this matter in 2002, showing that abrupt climate changes (*e.g.*, large regional cooling or warming, widespread droughts, shifts in hurricane frequency or flood regimes that occur in only a decade or so) are possible because they have happened in the past, at the dawn of human history and before. We do not understand these switches very well, but there is a finite but unknown risk that continued emission of greenhouse gases will trigger a climate change surprise.

9. The science of climate change (including the uncertainties) implies that delay in reducing greenhouse gas emissions will very likely increase the risks to human societies. Early steps to reduce greenhouse gas emissions to levels below current trajectories will certainly reduce the magnitude of climate change that would otherwise be caused. Because of inertia in the climate system, it will be many decades before effects of emission reductions are realized.

10. Delaying reductions in greenhouse gas emissions heightens the risk to human welfare because climate inertia commits us to large-scale, long term (centuries) climate change consequences before the exact nature of those consequences can be known. The heightened risk of delaying emissions reductions is clearly expressed in *Climate Change Science*. J.A. 151-152, *Climate Change Science* at 1.

11. Stratospheric ozone depletion and the Antarctic "ozone hole" illustrate how both surprise and inertia may increase the risks from unmitigated global environmental change. Models predicted that the emission of chlorofluorocarbons (CFCs) and other chlorinated halocarbons by human activities would gradually deplete stratospheric ozone. No model predicted the stratospheric ozone hole in advance of its discovery in the mid-1980s. The reality of ozone depletion turned out to be worse than even the worst-case modeled scenario because none of the models anticipated the novel chemistry of ozone depletion via polar stratospheric clouds above the south (and north)

poles. The CFC phase-out of the 1990s should allow the ozone hole to recover, but it will take about 75 years, a time lag reflecting the long lifetimes of CFCs (inertia preventing recovery). It is noteworthy that early regulation by the United States (beginning in the 1970s, before the ozone hole was discovered) certainly reduced the risks and damages that unfolded in the case of stratospheric ozone depletion.

12. Developments since the NAS/NRC reports of 2001 and 2002 have only reinforced the finding that recent climate changes are "likely mostly due to human activities."[10] J.A. 151, *Climate Change Science* at 1.

a. The five warmest years since pre-industrial times were 1998, 2002, 2003, 2004, and 2005 (2005 is the warmest overall), and the reduction of ice cover in the Arctic has accelerated.[11]

b. A recent NAS/NRC report confirmed temperature trends discussed in *Climate Change Science*, concluding that the global mean surface temperature during the last few

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[10] See, *e.g.*, *Joint Science Academies' Statement: Global Response to Climate Change*, *available at* http://www.nationalacademies.org/onpi/06072005.pdf (June 2005) (signed by the presidents of the national scientific academies in Brazil, Canada, China, France, Germany, India, Italy, Japan, Russia, United Kingdom, and the United States). The *Statement* begins:

> *Climate change is real.* There will always be uncertainty in understanding a system as complex as the world's climate. However there is now strong evidence that significant global warming is occurring. The evidence comes from direct measurements of rising surface air temperatures and subsurface ocean temperatures and from phenomena such as increases in average global sea levels, retreating glaciers, and changes to many physical and biological systems. It is likely that most of the warming in recent decades can be attributed to human activities (IPCC 2001). This warming has already led to changes in the Earth's climate.

Id. (emphasis added).

[11] J. Hansen, M. Sato, R. Ruedy, K. Lo, D.W. Lea & M. Medina-Elizade, *Global Temperature Change*, Proc. Natl. Acad. Sci. (forthcoming); J.C. Comiso, *Arctic Warming Signals from Satellite Observations*, 61-3 Weather 70-76 (2006).

decades of the 20th century was higher than any comparable period in the past four centuries, and, likely so, in the past 1000 years. *Reconstructions* at 2, Report in Brief; *id.* at 3.

c. The question of the apparent discrepancy between late 20th century temperature rise at the surface, versus satellite-derived temperatures above the surface, regarded as a puzzle in *Climate Change Science*, has been resolved. A recent comprehensive scientific reevaluation, which corrected errors in the initial satellite estimates, concluded that "all available data sets show that both the surface and the troposphere have warmed." U.S. Climate Change Science Program, *Temperature Trends in the Lower Atmosphere: Steps for Understanding and Reconciling Differences* 1 (Apr. 2006).

II. EPA and the Court of Appeals Mischaracterized the Science of Climate Change, Making It Appear More Uncertain Than It Actually Is.

EPA relied on the NAS/NRC 2001 report, *Climate Change Science*, as the authoritative source of scientific information in its decision to deny the petition for rulemaking. The court of appeals cited no other source than *Climate Change Science* for its conclusion regarding scientific uncertainty. But EPA and the court of appeals mischaracterized the scientific analysis in *Climate Change Science* and arrived at conclusions sharply at variance with the scientific judgments in the report.

To understand the magnitude of their mischaracterization of *Climate Change Science*, one must first examine the nature of scientific uncertainty. Scientific knowledge is developed incrementally, using experiment and observation to test and refine hypotheses. A large part of the work of science is directed towards understanding and quantifying uncertainties. *The goal is to place bounds on future outcomes.* An hypothesis is deemed "virtually certain" if the predicted outcome is expected to occur for

99% or more of repeated trials, "very likely" for 90-99%, and "likely" for 66-90%.[12] Absolute certainty is impossible *in principle* in climate science, as in all fields of science.[13] Moreover, there is only a single "trial" with respect to earth's climate, so strict statistical measures of likelihood cannot be applied. These characteristics of scientific knowledge must be expertly considered, and certainties and uncertainties carefully balanced, when applying the protective approach required for decisions to regulate under the Clean Air Act. However, in its denial of the petition for rulemaking, EPA presented an inexpert and unbalanced discussion, and reached conclusions not supported by the scientific evidence it was purporting to use.

A. EPA's Decision

EPA's decision misrepresented the findings in *Climate Change Science*, which EPA cited as the only source of evidence in its discussion of scientific uncertainty. See Pet. App. 82, 68 Fed. Reg. 52,922, 52,930 (Sept. 8, 2003) ("We rely in this decision on NRC's objective and independent assessment of the relevant science."); *see also id.* (adding that nothing received during the public comment period "causes us to question the validity of the NRC's conclusions"). *Climate Change Science* encompasses both the more certain and the less certain elements of the science, and uncertainties are described explicitly, as is the norm in scientific reports. Thus, it is possible to quote selectively from the report to make the scientific conclusions appear either more or less certain than they actually are.

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[12] See note 7 *supra*.

[13] See Erica Beecher-Monas, *The Heuristics of Intellectual Due Process: A Primer for Triers of Science*, 75 N.Y.U. L. Rev. 1563, 1581 (2000) ("Scientists understand that fluctuations, instability, multiple choices, and limited predictability are inherent at all levels of observation.") (internal quotation marks omitted).

EPA admitted to three important observations about the global climate: (1) that "concentrations of GHGs are increasing in the atmosphere as a result of human activities," *id.* (citing J.A. 170-180, *Climate Change Science* at 9-12), (2) that a "diverse array of evidence points to a warming of global surface air temperatures," *id.* (quoting J.A. 190, *Climate Change Science* at 16), and (3) that "the magnitude of the observed warming is large in comparison to natural variability," Pet. App. A83, 68 Fed. Reg. at 52,930 (quoting J.A. 193, *Climate Change Science* at 17).

However, EPA omitted the essential scientific conclusion that constitutes the core of *Climate Change Science*: that these separate observations are causally linked. This is a fundamental omission. It is as if a summary of Newton's *Principia*—which advanced the theory of gravitation as the common explanation for how apples fall to earth and planets move in the heavens—repeated Newton's description of the motions of apples and planets, but never got around to mentioning gravity. Isaac Newton, *Principia Mathematica Philosophiae Naturalis* (W.A. Kaminski trans., World Scientific 1987) (1729).

EPA in particular omitted mention of the following two pivotal conclusions. First, the NAS report unambiguously links already observed climate warming, and related impacts, damages, and risks, to human emissions of greenhouse gases. "*The changes observed over the last several decades are likely mostly due to human activities*, but we cannot rule out that some significant part of these changes is also a reflection of natural variability." J.A. 151, *Climate Change Science* at 1 (emphasis added). The key conclusion, in the first part of this sentence, is never cited by EPA. Second, after listing a number of impacts and damages that are likely to occur in response to human-caused climate change, *Climate Change Science* states, "Hence national policy decisions made now, and in the longer-term future will influence the extent of any damage suffered by vulnerable human populations and ecosystems later in this century." J.A. 152, *Climate Change*

Science at 1. Remarkably, EPA ignored this scientific judgment, which clearly indicated the panel's concern that dangerous human-caused climate change is likely[14] already underway with larger effects committed for the future, particularly if action should not be taken to limit emissions.

EPA focused instead on a statement in the 2001 report that a "causal linkage between the buildup of greenhouse gases in the atmosphere and the observed climate changes during the 20th century cannot be unequivocally established." J.A. 193, *Climate Change Science* at 17 (cited in Pet. App. A83, 68 Fed. Reg. at 52,930). But EPA was petitioned to initiate rulemaking under Section 202(a)(1) of the Clean Air Act, which requires regulation of motor vehicle pollutants that "may reasonably be *anticipated* to endanger public health or welfare." 42 U.S.C. 7521(a)(1) (emphasis added). It is not required that the link between observed warming and increased greenhouse gas concentrations be "unequivocally established" in order to ascertain whether greenhouse gas emissions "may reasonably be anticipated to harm" human health and welfare under Section 202(a)(1). As noted above, if "unequivocal" means "absolutely certain," this is impossible for climate science, just as absolute certainty is impossible to show for the link between smoking and cancer, or for the links to impacts of many other pollutants that are already regulated under the "reasonably be anticipated to endanger" framework.

EPA also ignored the two-sidedness of scientific uncertainty. Outcomes may turn out better than our best current prediction, but it is just as possible that environmental and health damages will be more severe than best predictions, as happened in the examples of stratospheric ozone depletion (discussed *supra*) and of lead toxicity from automobile emissions (discussed *infra*). Thus, it is wrong to infer that, because a prediction of an

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[14] See note 7 *supra*.

undesirable outcome is uncertain, the associated risks are not worth regulating.

EPA's use of selective quotations and its unbalanced treatment of uncertainty allowed it to draw conclusions that are opposed to the actual scientific conclusions of *Climate Change Science*. EPA stated: "Substantial scientific uncertainties limit our ability to assess each of these factors [that contribute to climate change] and to separate out those changes resulting from natural variability from those that are directly the result of increases in anthropogenic GHGs." Pet. App. A84, 86 Fed. Reg. at 52,930. EPA's conclusion, drawn from this statement, was: "Until more is understood about the causes, extent, and significance of climate change and the potential options for addressing it, EPA believes that it is inappropriate to regulate GHG emissions from motor vehicles." Pet. App. A86, 86 Fed. Reg. at 52,931.

EPA's conclusion implies that there is no significant risk in waiting for future studies. This conclusion directly conflicts with the plain language of *Climate Change Science*, the authority that EPA claimed to use. The uncertainties are important, but so are the certainties and near-certainties, and the risks of delaying reductions in GHG emissions. In environmental science generally, and climate science in particular, critical decisions must be made in a timely fashion to protect the health and welfare of the population, without absolute certainty or multiple trials, and without the false luxury of waiting for the damage to be observed.

The need for timely decisions in the presence of uncertainty was recognized explicitly by Congress in crafting the Clean Air Act 202(a)(1). *Climate Change Science* assessed the science holistically and concluded that human-caused climate change had most likely already occurred and that serious future damage was highly probable.

By failing to properly balance scientific knowledge and uncertainties, and to acknowledge the links between GHGs, climate change, and damage to human health and

welfare discussed in *Climate Change Science*, EPA fundamentally distorted the meaning of the report. There is simply no sign in EPA's decision of the strong base of scientific knowledge described in *Climate Change Science*. The core conclusions of *Climate Change Science* (omitted in EPA's discussion) dovetail with the requirements of the Clean Air Act § 202(a)(1). EPA's denial of petition to regulate was based on distortion and misrepresentation of the scientific findings of *Climate Change Science*.

B. Court of Appeals Decision

The court of appeals assumed that EPA has the statutory authority to regulate greenhouse gas emissions from motor vehicles, but decided that EPA had properly exercised its discretion in refusing to regulate these emissions. In upholding EPA's decision, the court of appeals relied on several factors, including scientific uncertainty. Pet. App. 12, *Massachusetts*, 415 F.3d at 57. The court of appeals, relying on EPA's misrepresentation of *Climate Change Science*, also mischaracterizes the findings of the NAS/NRC panel by emphasizing uncertainties in climate change science while failing even to mention the existence of fundamental areas of certainty or consensus. The court then used scientific uncertainty (which it had mischaracterized) as a basis for upholding EPA's decision. Pet. App. 13, *id.* at 58.

Judge Randolph's opinion for the court cites *Climate Change Science* six times, with these citations selected in a way that omits important scientific context. For example, the opinion states, "The National Research Council [NAS/NRC] concluded that 'a causal linkage' between greenhouse gas emissions and global warming 'cannot be unequivocally established,'" excluding the intervening words "between the buildup of greenhouse gases in the atmosphere and the observed climate changes in the 20th century." Pet. App. 12, *id.* at 57. Without the intervening words, the reader is given the false impression that the quote applies to a completely different issue, the *general*

link between greenhouse gas concentrations and global warming. In fact, as we (including those of us who were members of the 2001 NAS/NRC panel) emphasize above, this link is virtually certain, even though uncertainties attach to the exact magnitude and timing of human-induced climate warming.

III. EPA Did Not Apply the Standard of Scientific Evidence Set Forth in the Clean Air Act.

The appropriate legal standard for determining the sufficiency of scientific evidence depends on the legal setting in which a decision is made. Different standards are appropriate in different contexts, such as in civil cases ("preponderance of the evidence"[15]) and criminal cases ("beyond reasonable doubt"[16]).

In this case, the legal standard for the sufficiency of scientific evidence has been established by Congress in Section 202(a)(1) of the Clean Air Act. That section provides:

> The Administrator shall by regulation prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment *cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.*

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[15] See Dan B. Dobbs, *The Law of Torts* § 19 (2000) ("The plaintiff need not prove that each fact necessary for her prima facie case is certainly true or true beyond a doubt. Instead, she must prove that each fact is more probable than not. Expressed statistically, she must persuade the jury or other trier of fact that the likelihood of each fact in her case exceeds 50%.") (footnote omitted).

[16] *Victor* v. *Nebraska*, 511 U.S. 1, 15 (1994) (requiring fact finder to have "a subjective state of near certitude" to return a guilty verdict); Robert C. Power, *Reasonable and Other Doubts*, 67 Tenn. L. Rev. 45, 51-53 (1999).

42 U.S.C. 7521(a)(1) (emphasis added). The following explains the standard of scientific evidence established under Section 202(a)(1) and how, in fact, the science of climate change meets this standard.

A. Section 202 Requires Reasonable Anticipation of Endangerment to Public Health or Welfare, Not Absolute Scientific Certainty.

The text and purposes of the Clean Air require a conservative approach to protection of public health and welfare. The statute mandates regulation of pollutants that "may reasonably be anticipated to endanger public health or welfare," 42 U.S.C. 7521(a)(1). It does not, and cannot reasonably be read to require complete scientific certainty in order to make a determination.[17]

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[17] The protective approach in Section 202(a)(1) is reinforced and made more explicit for greenhouse gases by a treaty to which the United States is a party, the United Nations Framework Convention on Climate Change, May 9, 1992, 1771 U.N.T.S. 107, *available at* http://unfccc.int/essential_background/convention/background/items/1349.php, which entered into force in 1994, see UNFCCC website at http://unfccc.int/parties_and_observers/parties/items/2228.php. In ratifying the Convention, the parties expressly agreed not to invoke scientific uncertainty as a ground for failing to take regulatory action on greenhouse gases where there is a "threat" of serious damage:

> The Parties should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, *lack of full scientific certainty should not be used as a reason for postponing such measures . . . .*"

Id. at Art. 3, ¶ 3 (emphasis added). Ratified treaties, along with the Constitution itself and United States laws, are "the supreme Law of the Land." U.S. CONST. Art. VI, § 2. Thus, an "act of Congress ought never to be construed to violate the law of nations if any other possible construction remains . . ." *Murray* v. *Schooner Charming Betsy*, 6 U.S. 64, 118 (1804); *Weinberger* v. *Rossi*, 456 U.S. 25, 32 (1982); *Hartford Fire Ins. Co.* v. *California*, 509 U.S. 764, 814-815 (1993) (Scalia, J., dissenting); *Spector* v. *Norwegian Cruise Line, Ltd.*, 545 U.S. 119, ___, 125 S.Ct. 2169, 2185 (2005) (Ginsburg, J., concurring).

EPA's decision to regulate lead additives in gasoline illustrates the wisdom of Congress' protective mandate to protect public health and welfare in Clean Air Act § 202(a)(1). In 1973, EPA promulgated final regulations phasing out the use of lead as a gasoline additive. Control of Lead Additives in Gasoline, 38 Fed. Reg. 33,734 (Dec. 6, 1973). It acted under Section 211(c)(1)(A) of the Clean Air Act, which at that time authorized EPA to adopt regulations restricting fuel additives in gasoline if any of their emission products "will endanger the public health or welfare. . . ." 42 U.S.C. 1857f-6c(c)(1)(A), currently codified as amended at 42 U.S.C. 7545(c)(1)(A). In adopting these regulations, EPA found that auto emissions from leaded gasoline presented "a significant risk of harm" to public health. 38 Fed. Reg. at 33,734.

These regulations were promulgated notwithstanding the lack of scientific consensus on whether the target of EPA's regulation—airborne lead from motor vehicles—was correlated with elevated blood lead levels (which cause lead poisoning and irreversible loss of cognitive function), and, if it was, whether airborne lead from burning leaded gasoline was a significant exposure pathway relative to other pathways (e.g. lead-based paint). 38 Fed. Reg. at 33,736.

Nevertheless, EPA promulgated lead regulations in the face of this uncertainty. As the court upholding EPA's decision to regulate recognized, certainty "may be impossible to obtain if the precautionary purpose of the statute is to be served." *Ethyl Corp. v. EPA*, 541 F.2d 1, 28 (D.C. Cir. 1976). The "will endanger" language, the *Ethyl* court said, is triggered when harm is threatened, not simply when it has already occurred. 541 F.2d at 17. This conclusion is supported, the court said, not only by the text and legislative history of the Clean Air Act, but also by EPA's responsibility under the statute: "to protect the public from danger." *Id.* at 24.[18]

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[18] The court of appeals in the instant case misread *Ethyl* to support EPA's reliance, in deciding not to regulate motor vehicle greenhouse gas emissions, upon policy considerations unrelated to whether such

This protective interpretation of the Clean Air Act was strengthened and codified by Congress' subsequent amendment of the Section 202(a)(1) to require EPA to regulate where emissions "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare," as opposed to the more narrow wording that the pollution "will endanger" public health or welfare.[19]

The outcome of regulating lead emissions was very significant. After lead was removed from gasoline, blood levels in children and adults dropped faster than anticipated. Blood lead levels decreased from 12.8 μg/dL in the late 1970s to 2.3 μg/dL in 1993 (geometric mean); recent epidemiological studies show that adults who carried the mean blood lead levels of the 1970s suffered an increase in mortality (all causes) exceeding 40%, compared to those having lead levels equal to current mean values.[20] This startling impact could not be determined in the 1970s because the entire population had elevated levels of lead,

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emissions meet the Section 202(a)(1) endangerment standard. *Massachussetts* v. *EPA*, 415 F.3d 57-58. While *Ethyl* approved EPA's authority to make essentially "legislative policy judgments" under statutory language nearly identical to that of Section 202, those judgments were sharply limited to "the relative risks of underprotection as compared to overprotection" and did not encompass such far-flung considerations as whether unilateral regulation of U.S. motor vehicle emissions could weaken efforts to persuade developing countries to reduce their emissions of greenhouse gases. See *Ethyl*, 541 F.2d at 20 (refuting industry's contention that the statute limited EPA to reliance upon specific factual findings). Nothing in the treatment of *Ethyl* by the court of appeals below cast aspersions upon *Ethyl*'s endorsement of a protective interpretation of the Section 202(a)(1) trigger for regulation.

[19] Pub. L. No. 95-95, § 401, 91 Stat. 791 (1977). Congress expressly intended these changes to compel EPA to assess risks and undertake regulatory action under conditions of uncertainty.

[20] Susan E. Schober, Lisa B. Mirel, Barry I. Graubard, Debra J. Brody, & Katherine M. Flegaldoi, *Blood Lead Levels and Death from All Causes, Cardiovascular Disease, and Cancer: Results from the NHANES III Mortality Study*, 10.1289 Envtl. Health Persp. 9123 (2006), *available at* http://www.ehponline.org/members/2006/9123/9123.pdf (last visited Aug. 24, 2006).

and because the studies had not covered a sufficiently long period. Evidently huge impacts on health and welfare accrued even though they could not be demonstrated conclusively when EPA issued its ruling.

The timely EPA action removed lead from fuel at least 10 years before similar steps in Europe. In the United Kingdom, lead removal began in 1993. It has been estimated that removing lead from motor fuels delivered a net societal saving of over $2 billion in the first 10 years in the United Kingdom alone, accounting for mortality changes but not including the costs of loss of cognitive function and other effects of lead intoxication.[21] But while uncontrolled lead emissions continued in Europe and the United Kingdom through the 1980s and early 1990s, the United States was already applying the Clean Air Act's conservative science-based approach to curtail lead emissions, evidently saving many billions of dollars and protecting the health of tens of millions of people, especially children.

B. There Was and Is Sufficient Scientific Evidence to Enable EPA to Make a Determination Under Section 202 of the Clean Air Act that Greenhouse Gas Emissions "May Reasonably Be Anticipated to Endanger Public Health or Welfare."

EPA's decision not to regulate GHG emissions never directly addressed the fundamental question: does the science of climate change support a determination that GHG emissions "may reasonably be anticipated to endanger public health or welfare"? We here explain why, in our professional opinion as climate scientists, the evidence supporting such a determination is compelling.[22]

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[21] Emma J. Hutchinson & Peter J. G. Pearson, *An Evaluation of the Environmental and Health Effects of Vehicle Exhaust Catalysts in the United Kingdom*, 112 (2) Envtl. Health Persp. (Feb. 2004).

[22] We are not asking the Court to make an endangerment determination, as that is properly the role of EPA. This brief provides the Court with the Climate Scientists' expert opinion that evidence

As stated in *Climate Change Science*, "national policy decisions made now and in the longer term future will influence the extent of any damage suffered by vulnerable human populations and ecosystems later in this century." J.A. 152, *Climate Change Science* at 1.

The NAS/NRC report discusses many adverse impacts of anthropogenic climate change, in addition to those discussed *supra*:

> The optimal climate for crops may change, requiring significant regional adaptations. Some models project an increased tendency toward drought over semi-arid regions, such as the U.S. Great Plains. Hydrologic impacts could be significant over the western United States, where much of the water supply is dependent on the amount of snow pack and the timing of the spring runoff. Increased rainfall rates could impact pollution run-off and flood control. With higher sea level, coastal regions could be subject to increased wind and flood damage even if tropical storms do not change in intensity. A significant warming also could have far reaching implications for ecosystems.

J.A. 160-161, *Climate Change Science* at 4.

> Climate is one of a number of factors influencing the incidence of infectious disease. Cold related stress would decline in a warmer climate, while heat stress and smog induced respiratory illnesses in major urban areas would increase, if no adaptation occurred.

J.A. 160, *Climate Change Science* at 4.

> Global warming could well have serious adverse societal and ecological impacts by the end of this century, especially if globally-averaged temperature increases approach the upper end of the IPCC

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exists to support an endangerment finding, so that a remand would not be an empty gesture.

> projections. Even in the more conservative scenarios, the models project temperatures and sea levels that continue to increase well beyond the end of this century, suggesting that assessments that examine only the next 100 years may well underestimate the magnitude of the eventual impacts.

Id., Climate Change Science at 4.

These impacts are clearly sufficient to support a finding of "reasonable anticipation" of endangerment. The fact that the *extent* of the damage, or associated time lags, may be greater or less than current projections were not (in the judgment of the NAS/NRC panel) sufficient to cast doubt on the links between GHGs and climate change with its associated risks. That particular impacts may be more or less uncertain, that the economy or public health system might adapt, or that future research may reveal more effective control technologies, are *all* irrelevant to the statutory standard for triggering regulatory action.[23]

Protective considerations are particularly important for greenhouse gases because, as explained in Part I, delaying action to reduce greenhouse gas emissions will certainly result in greater buildup of greenhouse gases in the atmosphere,[24] and thus we commit the earth to long-

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[23] The brief for respondent Utility Air Regulatory Group in opposition to the petition for certiorari suggested that the existence of some benefits from global warming and the economy's ability to adapt to adverse impacts would support a finding of non-endangerment (UARG Br. in Opp. 12-13). In its decision, EPA cited only the existence of scientific uncertainties regarding the extent of the impact and development of new technologies. Pet. App. 82-85, 62 Fed. Reg. at 52,931.

[24] Among the uncertainties that EPA cited was "[t]he fraction of fossil fuel carbon that will remain in the atmosphere and contribute to radiative forcing versus exchange with the oceans or with the land biosphere." Pet. App. 84, 62 Fed. Reg. at 52,930. But that uncertainty is irrelevant to the question as to whether to regulate, because (1) a significant portion of the emissions will accumulate in the atmosphere, (2) to the extent that the emissions are taken up by the oceans they will accumulate there and contribute to acidification and (3) in both cases, waiting will exacerbate the damage. See pt. I, *supra*.

lasting climate change and associated damages decades before these damages can be measured. Reversing the impacts of climate change becomes vastly harder, or impossible, and more expensive as we allow greenhouse gas pollutants to accumulate in the atmosphere. Thus more than enough scientific evidence exists to warrant the conclusion that greenhouse gas emissions "may reasonably be anticipated to endanger public health or welfare" under Section 202(a)(1).

CONCLUSION

For the foregoing reasons, this Court should reverse the decision of the court of appeals.

Respectfully submitted,

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In the Supreme Court of the United States

COMMONWEALTH OF MASSACHUSETTS, ET AL.,

Petitioners.

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.,

Respondents.

On Writ of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

BRIEF OF WILLIAM J. BAUMOL, ROBERT W. CRANDALL, ROBERT W. HAHN, PAUL L. JOSKOW, ROBERT E. LITAN, AND RICHARD L. SCHMALENSEE AS *AMICI CURIAE* IN SUPPORT OF RESPONDENTS

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QUESTION PRESENTED

Amici will address the following question:

Whether the Environmental Protection Agency's denial of the petition to regulate emissions of greenhouse gases from motor vehicles under Section 202(a) of the Clean Air Act was reasonable in light of the global nature of greenhouse gas emissions and the likely superiority of other methods for combating greenhouse gases.

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Statutes and Regulations:

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49 U.S.C. § 32904(e) 11

40 C.F.R. § 600.113-93(e) 11

Miscellaneous:

William J. Baumol, *On Taxation and the Control of Externalities*, 62 AM. ECON. REV. 307 (1972) 17

Robert W. Crandall & John D. Graham, *The Effect of Fuel Economy Standards on Automobile Safety*, 32 J.L. & ECON. 97 (1989) 13

ROBERT W. CRANDALL, HOWARD K. GRUENSPECHT, THEODORE E. KEELER & LESTER B. LAVE, REGULATING THE AUTOMOBILE (1986) 12

TABLE OF AUTHORITIES—Continued

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ENERGY INFO. ADMIN., INTERNATIONAL ENERGY ANNUAL (2004), http://www.eia.doe.gov/emeu/iea/carbon.html 9

ENERGY INFO. ADMIN., PROJECTED INT'L CARBON DIOXIDE EMISSIONS FROM ENERGY USE TO 2030 (REFERENCE CASE) (2006), http://www.eia.doe.gov/oiaf/ieo/pdf/ieoreftab_10.pdf 9

GAO, *Electric Vehicles: Likely Consequences of U.S. and Other Nations' Programs and Policies*, PEMD-95-7, Dec. 30, 1994 14

David L. Greene, James R. Kahn & Robert C. Gibson, *Fuel Economy Rebound Effect for U.S. Household Vehicles*, 20 ENERGY J. 1 (1999) 11

David L. Greene, *Vehicle Use and Fuel Economy: How Big is the "Rebound" Effect?*, 13 ENERGY J. 117 (1992) 11

Lorna A. Greening, David L. Greene & Carmen Difiglio, *Energy Efficiency and Consumption—the Rebound Effect—a Survey*, 28 ENERGY POL'Y 389 (2000) 12

Howard K. Gruenspecht, *Differentiated Regulation: The Case of Auto Emissions Standards*, 72 AM. ECON. REV. PAPERS & PROC. 328 (1982) 12

Howard Gruenspecht, *Zero Emission Vehicles: A Dirty Little Secret*, RESOURCES, Winter 2001, at 7, available at http://rff.org/rff/Publications/Resource_Articles.cfm 14

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Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243 (1968) 7, 8

Clifton T. Jones, *Another Look at U.S. Passenger Vehicle Use and the 'Rebound Effect' from Improved Fuel Efficiency*, 14 ENERGY J. 99 (1993) 12

Andrew W. Kleit, *Impacts of Long-Range Increases in the Fuel Economy (CAFE) Standard*, 42 ECON. INQUIRY 279 (2004) 17

Warwick J. McKibbin & Peter J. Wilcoxen, *The Role of Economics in Climate Change Policy*, 16 J. ECON. PERSPECTIVES 107 (2002) 17

WILLIAM D. NORDHAUS & JOSEPH BOYER, WARMING THE WORLD: ECONOMIC MODELS OF GLOBAL WARMING (2000) 17

Paul R. Portney, Ian W.H. Parry, Howard K. Gruenspecht & Winston Harrington, *The Economics of Fuel Economy Standards*, 17 J. ECON. PERSPECTIVES 203 (2003) 13

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Robert N. Stavins, *Vintage-Differentiated Environmental Regulation*, 25 STAN. ENVTL. L.J. 29 (2006) 13

CASS R. SUNSTEIN, RISK AND REASON: SAFETY, LAW, AND THE ENVIRONMENT (2002) 16, 17

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INTEREST OF THE *AMICI CURIAE*[1]

Amici are economics professors and scholars who have expertise and write and teach on public policy, regulatory economics, and the economics of environmental policy.

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[1] All parties have consented to the filing of this brief. Pursuant to this Court's Rule 37.6, *amici* state that no counsel for any party in this case authored this brief in whole or in part. The following non-parties made monetary contributions for the preparation and submission of this brief: Arizona Automobile Dealers Association; Automobile Dealers Association of Alabama; Automobile Dealers Association of Greater Philadelphia; California Motor Car Dealers Association; Chicago Automobile Trade Association; Colorado Automobile Dealers Association; Detroit Auto Dealers Association; Eastern New York Coalition of Automotive Retailers, Inc.; Florida Automobile Dealers Association; Georgia Automobile Dealers Association; Greater Cleveland Automobile Dealers' Association; Illinois Automobile Dealers Association; Iowa Automobile Dealers Association; Kansas Automobile Dealers Association; Kentucky Automobile Dealers Association; Maine Automobile Dealers Association, Inc; Maryland Automobile Dealers Association; Massachusetts State Auto Dealers Association, Inc.; Metro Denver Automobile Dealers Association; Metro Portland New Car Dealers Association; Michigan Automobile Dealers Association; Missouri Automobile Dealers Association; New Hampshire Automobile Dealers Association; New Jersey Coalition of Automotive Retailers; New Mexico Automotive Dealers Association, New York State Automobile Dealers Association; Niagara Frontier Automobile Dealers Association; North Carolina Automobile Dealers Association; Ohio Automobile Dealers Association; Oklahoma Automobile Dealers Association; Oregon Automobile Dealers Association; Pennsylvania Automotive Association; Rochester Automobile Dealers' Association, Inc.; Silicon Valley Auto Dealers Association; South Carolina Automobile Dealers Association; Tennessee Automotive Association; Texas Automobile Dealers Association; Utah Automobile Dealers Association; Vermont Automobile Dealers Association; Virginia Automobile Dealers Association; Washington Area New Automobile Dealers Association; Wisconsin Automobile and Truck Dealers Association.

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INTRODUCTION AND SUMMARY

Climate change poses serious environmental, social, and economic issues that should not be neglected. The urgency of these issues, however, should not obscure the fact that there are better and worse policy instruments for responding to this global problem.

This case arises from the D.C. Circuit's denial of a petition for review that challenged the refusal by the United States Environmental Protection Agency ("EPA") to engage in rulemaking to regulate "Greenhouse Gas Emissions from New Motor Vehicles Under § 202 of the Clean Air Act." Petition for Rulemaking at JA 5.[2] Section 202 directs the Administrator to prescribe "by regulation * * * standards applicable to the emission of any air pollutant from any class or classes of new motor vehicle or new motor vehicle engines, which, in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7521(a)(1). EPA denied the petition, based in part on its determination that, having regard to "public health or welfare," "setting [greenhouse gas] emission standards is not appropriate at this time." Pet. App. A67. The D.C. Circuit, in a lead opinion by Judge Randolph, held that, in weighing "'policy' considerations" relevant to the public health and welfare to deny the petition, the "EPA Administrator properly exercised his discretion under § 202(a)(1)." Pet. App. A14, A15.

The rulemaking petition sought the *regulation* of GHGs under Section 202(a) of the CAA, 42 U.S.C. § 7521(a)(1), rather than just a determination that carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons are air pollutants within the meaning of Section 302(g), 42 U.S.C. § 7602(g). See JA 5, 6-7, 15, 16, 21-44. The court of appeals recognized that the petition for rulemaking sought regulation of GHGs. See Pet. App. A11 ("Petitioners sought to have EPA regulate, under § 202(a)(1) of the Clean Air Act, carbon dioxide (CO_2) and three other greenhouse gases: methane (CH_4), nitrous oxide (N_2O), and hydrofluorocarbons (HFCs)").

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[2] Throughout the remainder of this brief, we use the abbreviations "GHG" to refer to greenhouse gases and "CAA" to refer to the Clean Air Act.

EPA rested its decision not to regulate GHGs on a number of considerations. First, the agency stated that, "[b]ased on a thorough review of the CAA, its legislative history, other congressional action and Supreme Court precedent, EPA believes that the CAA does not authorize regulation to address global climate change." Pet. App. A67 (footnote omitted); see also *id.* at A68-A78. EPA also concluded that, even if it was authorized to regulate carbon dioxide under the CAA, "Congress has not authorized the Agency to regulate CO_2 emissions from motor vehicles to the extent such standards would effectively regulate car and light truck fuel economy, which is governed by a comprehensive statute administered by DOT." *Id.* at A67; see also *id.* at A77, A79-A80.

EPA also cited a number of policy considerations that counseled against the regulatory action sought by the petitioners. Specifically, EPA referred to the potential for conflict with existing White House policies and initiatives (Pet. App. A67-A68), as well as concerns about the foreign policy implications of the regulation. *Id.* at A68; see also *id.* at A85-A87.

In addition EPA stated that, even if the Administrator were to "find that GHGs, in general, may reasonably be anticipated to endanger public health or welfare" (Pet. App. A81), the agency would have the discretion not to regulate. EPA stated that "[d]epending on the particular problem, motor vehicles may contribute more or less or not at all. An important issue before the Administrator is whether, given motor vehicles' relative contribution to a problem, *it makes sense to regulate them.* * * * The discretionary nature of the Administrator's section 202(a)(1) authority allows her to consider these important policy issues and decide to regulate motor vehicle emissions as appropriate to the air pollution problem being addressed." *Ibid.* (emphasis added). EPA concluded that "[w]e do not believe * * * that it would be either effective or appropriate for EPA to establish GHG standards

for motor vehicles at this time" (*id.* at A82), noting, among other things, that establishing GHG emission standards for U.S. motor vehicles would "result in an inefficient, piecemeal approach to addressing the climate change issue." *Id.* at A85.

It is this policy judgment that we address in this brief. In doing so, we offer our perspective as economists, focusing on whether, when considered through the prism of basic economic principles, it makes sense to regulate GHGs – particularly carbon dioxide – under Section 202(a) of the CAA.[3] We conclude that the regulatory proposals made by the petitioners before EPA are likely to have significant adverse impacts and that there are alternative regulatory mechanisms for reducing carbon dioxide emissions that are likely to be much more cost-effective than the regulatory mechanisms provided by Section 202(a).[4]

The petitioners before EPA requested that carbon dioxide emissions from motor vehicles be regulated through performance standards involving either Corporate Average Fuel Economy ("CAFE") regulations or a zero-emission-vehicle

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[3] Our focus on carbon dioxide mirrors the overriding focus on carbon dioxide in the petition itself – a focus discerned by the court of appeals. See Pet. App. A11 n.2 ("[t]he rulemaking request and the papers submitted to this court focus on the effects of CO_2"). As EPA observed in its decision document, although the petitioners suggested a number of ways of reducing carbon dioxide emissions, "[p]etitioners do not, however, address the potential for reducing motor vehicle emissions of the other three [greenhouse gases]." Pet. App. A62; see also Pet. App. A87 ("With respect to the other GHGs – CH_4, N_2O, and HFCs – petitioners make no suggestion as to how these emissions might be reduced from motor vehicles").

[4] A policy is said to be more "cost-effective" than another if it can achieve the same overall goal, such as a specified reduction in pollution, at a lower cost. See HARVEY S. ROSEN, PUBLIC FINANCE 257 (7th ed. 2005). "Net benefits" are simply benefits minus costs.

("ZEV") mandate.[5] In response to the petitioners' position before EPA, we first discuss the problems inherent in attempts to address a global commons issue like greenhouse warming by regulating locally on an individual sector basis. Next, we discuss the adverse consequences that would result from CAFE regulations and ZEV requirements, which, as noted above, are the principal regulatory actions sought by petitioners before EPA. Finally, we discuss the widespread preference among economists for regulatory mechanisms that are more cost-effective and that provide more flexibility than standard-setting regulations, such as those proposed by the petitioners before EPA.

Our conclusion is that regulation of carbon dioxide under Section 202(a) is likely to bring with it a number of adverse consequences. This does not mean that policies to control greenhouse gases should be rejected out of hand. Rather, our view is that the use of the regulatory mechanisms afforded by Section 202(a) is insupportable and that there are other more cost-effective policy options for addressing GHGs that should be considered instead. In particular, economists generally consider incentive-based mechanisms, such as carbon taxes or marketable permits for carbon reduction, to be much more likely to yield net benefits than would performance-based standards, such as those proposed by petitioners before the agency. Accordingly, EPA's decision not to regulate under Section 202(a) was reasonable.

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[5] That CAFE and ZEV regulation were the principal regulatory options proposed by petitioners is clear from the petition for rulemaking. See JA 36-38, 39-41. EPA recognized this, as well. See Pet. App. A87. EPA noted that petitioners also proposed "tire efficiency standards," but dismissed such a suggestion as irrelevant to the setting of "'standards applicable to the *emission*' of an air pollutant from a motor vehicle under section 202(a)(1)." *Ibid.* (quoting Section 202(a)(1)).

ARGUMENT

We begin with some basic principles to which economists generally subscribe. First, other things being equal, economic principles favor the choice of regulatory options that are more cost-effective than alternative regulatory options. Economists also recognize that regulatory policies that provide regulated entities with flexibility in choosing ways to meet regulatory goals are likely to yield higher net benefits than policies that do not afford flexibility to the regulated entities. Flexibility in regulatory schemes allows regulated entities to tailor their compliance efforts to their particular circumstances, enhancing the likelihood that they will choose cost-effective methods of compliance, as well as facilitating innovation.

I. GREENHOUSE GAS EMISSIONS ARE A GLOBAL PROBLEM THAT DOES NOT LEND ITSELF TO LOCAL, SINGLE-SECTOR SOLUTIONS.

The abatement of greenhouse gases presents a classic "tragedy-of-the-commons" problem. See Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243 (1968). In the tragedy-of-the-commons, individual members of a community make excessive use of a common area because they do not take into account the costs that their individual uses impose on others. As Hardin described it:

> Picture a pasture open to all. It is to be expected that each herdsman will try to keep as many cattle as possible on the commons. * * *
>
> As a rational being, each herdsman seeks to maximize his gain. Explicitly or implicitly, more or less consciously, he asks "What is the utility *to me* of adding one more animal to my herd?" This utility has one negative and one positive component.
>
> (1) The positive component is a function of the increment of one animal. Since the herdsman re-

> ceives all the proceeds from the sale of the additional animal, the positive utility is nearly +1.
>
> (2) The negative component is a function of the additional overgrazing created by one more animal. Since, however, the effects of overgrazing are shared by all the herdsmen, the negative utility for any particular decision-making herdsman is only a fraction of -1.
>
> Adding together the component partial utilities, the rational herdsman concludes that the only sensible course for him to pursue is to add another animal to his herd. And another; and another. . . . But this is the conclusion reached by each and every rational herdsman sharing a commons. Therein is the tragedy. Each man is locked into a system that compels him to increase his herd without limit – in a world that is limited. Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all.

Id. at 1244.

The case of GHG emissions presents a tragedy-of-the-commons if individuals and firms are not appropriately charged the full social cost that their emissions imposes on others. Appropriate charges for GHG-emissions, and subsidies for actions that reduce such emissions, can help achieve the economically efficient level of GHGs – that is, the level at which the marginal benefit of reducing an additional increment of GHG emissions just equals the marginal cost of reducing that increment.

Like other tragedy-of-the-commons problems, GHG emissions are not efficiently solved in a piecemeal fashion. In denying the rulemaking petition, EPA properly recognized that an efficient solution to a GHG emissions problem must involve other major emissions-producing countries, and not

just the United States, and must not be confined to a single sector. Pet. App. A71-A74, A82, A85-A86.

A brief review of worldwide GHG production shows the logic in the EPA's decision. In 2004, the United States produced 21.9 percent of estimated worldwide manmade carbon dioxide emissions.[6] China produced 17.4 percent and Russia produced 6.2 percent.[7] Although the United States is currently the largest producer worldwide of GHG, that status will soon change. If current trends hold, China will be the largest producer of GHGs by the year 2015.[8]

Furthermore, GHG production is not limited to an individual sector of an economy. In particular, transportation produced only 26.8 percent of U.S. GHG emissions in 2002.[9] Transportation was not even the sector that contributed the most to GHG emissions in 2002. The most significant contributor to GHG emissions in 2002 was electricity generation, which was responsible for 33 percent of emissions.[10] Moreover, the carbon dioxide emissions from fossil fuels that were *not* produced by transport vehicles contributed to 49.4 percent of US GHG emissions.[11] By comparison, carbon dioxide

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[6] ENERGY INFO. ADMIN., INT'L ENERGY ANNUAL (2004), http://www.eia.doe.gov/emeu/iea/carbon.html, Table H.1co2 ("World Carbon Dioxide Emissions from the Consumption and Flaring of Fossil Fuels (Million Metric Tons of Carbon Dioxide), 1980-2004").

[7] *Ibid.*

[8] See ENERGY INFO. ADMIN., PROJECTED INT'L CARBON DIOXIDE EMISSIONS FROM ENERGY USE TO 2030 (REFERENCE CASE) (2006), http://www.eia.doe.gov/oiaf/ieo/pdf/ieoreftab_10.pdf.

[9] U.S. EPA, INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS & SINKS: 1990-2002 (2004) table 2-6, at 2-8 to 2-9, http://yosemite.epa.gov/oar/globalwarming.nsf/content/ResourceCenterPublicationsGHGEmissionsUSEmissionsInventory2004.html.

[10] *Ibid.*

[11] *Ibid.*

emissions from fossil fuels from the transportation sector produced 25.4 percent.[12]

Consequently, because the emission of GHGs is not only a multi-country problem but also a multi-sector problem, it was reasonable for EPA to decline to address the issue through the tailpipe emission standards sought by petitioners before the agency.

II. CONTROLLING CARBON DIOXIDE EMISSIONS THROUGH CAFE STANDARDS OR ZERO-EMISSION-VEHICLE MANDATES WOULD PRODUCE A HOST OF ADVERSE CONSEQUENCES.

As noted above (page 6, note 5, *supra*), petitioners before the EPA focused their arguments on regulation to control carbon dioxide emissions, and urged the use of CAFE standards and ZEV mandates to control such emissions.[13]

Both of these approaches present a myriad of economic problems, including serious adverse consequences.

A. The Use Of CAFE Standards Would Produce Several Adverse Consequences.

In the denial of the petition for rulemaking, EPA observed that "the only practical way to reduce tailpipe emissions of CO_2 is to improve fuel economy." Pet. App. A79.

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[12] *Ibid.*

[13] The petitioners before EPA also urged the agency to take steps to encourage the "market penetration" of hybrid vehicles – that is, vehicles "combining a gasoline-powered engine and a battery-powered electric motor." JA 38, 39. The only method that the petitioners proposed for enhancing the "market penetration" of hybrids, however, was the "setting of new § 202-based CAFE standards by the EPA." *Id.* at 39. Thus, the concerns that we raise in subsection A, *infra*, about the adverse consequences of new CAFE standards also apply to the petitioners' proposal that EPA take steps to encourage the marketability of hybrid vehicles.

Therefore, the regulation of carbon dioxide emissions would, in all probability, involve new CAFE standards.

Existing "CAFE" standards are set forth under the federal motor vehicle fuel economy program authorized under Title III of the Energy Policy Conservation Act ("EPCA"), Pub. L. No. 94-163, 89 Stat. 871, 901, et seq. (1975) (now codified at 49 U.S.C. § 32901, *et seq.*). The program is administered by the National Highway Traffic Safety Administration ("NHTSA"), a unit of the United States Department of Transportation. NHTSA has administered CAFE standards under the program for light duty motor vehicles for more than two decades. These CAFE standards establish average fuel economy levels that must be met by each vehicle manufacturer's fleet. The average fuel economy for each fleet is calculated under "testing and calculation procedures prescribed by the Administrator" of EPA. 49 U.S.C. § 32904(c). EPA's procedures call for measuring certain exhaust emissions, including carbon dioxide. The carbon dioxide emissions are measured in terms of grams of carbon dioxide per mile, and then converted into miles per gallon, according to a formula in EPA's regulations. 40 C.F.R. § 600.113-93(e). With this information, EPA computes each manufacturer's fleet average fuel economy in miles per gallon, and reports the results to NHTSA. 49 U.S.C. § 32904(e).

CAFE standards create a host of well-documented adverse consequences. One such consequence is known as the rebound effect. The rebound effect states that, by reducing driving costs, fuel economy standards actually encourage more driving and thereby increase congestion, pollution, and traffic accidents.[14] Such additional driving also would likely increase the emissions of GHGs.

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[14] *See, e.g.*, David L. Greene, *Vehicle Use and Fuel Economy: How Big is the "Rebound" Effect?*, 13 ENERGY J. 117, 118 (1992); David L. Greene, James R. Kahn & Robert C. Gibson, *Fuel Economy Rebound Effect for U.S. Household Vehicles*, 20 ENERGY J. 1, 1-2 (1999); Clifton T. Jones, *Another Look at U.S. Passenger Ve-*

The size of the rebound effect is considerable. Economists have estimated that the rebound effect is large enough to undermine the effectiveness of CAFE standards by between 10 and 30 percent.[15] That is, a 100 percent improvement in the fuel economy of the vehicle fleet would result in a 10 to 30 percent "rebound" in the form of additional miles driven. When added to the additional damage of increased congestion and traffic accidents, it is clear that the goal of CAFE standards is significantly undermined by the existence of the rebound effect.

Another adverse consequence of CAFE standards is the fact that they increase the cost of new vehicles. This, in turn, provides incentives for individuals to delay the purchase of new vehicles and continue driving their older vehicles, which could have adverse economic consequences for various parts of the automobile sector. Moreover, any delay in purchasing new vehicles also delays the achievement of the environmental benefits associated with newer vehicles that are produced with new technologies that decrease emissions.[16] Therefore, CAFE standards can actually increase the level of emissions produced by vehicles, particularly in the short-run.[17]

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hicle Use and the 'Rebound Effect' from Improved Fuel Efficiency, 14 ENERGY J. 99, 99 (1993) (discussing that the rebound effect results in an increase in vehicle miles traveled).

[15] Lorna A. Greening, David L. Greene & Carmen Difiglio, *Energy Efficiency and Consumption—the Rebound Effect—a Survey*, 28 ENERGY POL'Y 389, 398 (2000) (table 3).

[16] See, *e.g.*, Howard K. Gruenspecht, *Differentiated Regulation: The Case of Auto Emissions Standards*, 72 AM. ECON. REV. PAPERS & PROC. 328, 330-331 (1982); ROBERT W. CRANDALL, HOWARD K. GRUENSPECHT, THEODORE E. KEELER & LESTER B. LAVE, REGULATING THE AUTOMOBILE 89-90 (1986).

[17] See, *e.g.*, Gruenspecht, *Differentiated Regulation, supra* note 16, at 331 (more stringent emissions standards for CO, NO_x, and HC in 1981 resulted in a short-run increase in the production of those

Still another potential consequence of CAFE standards is their effect on vehicle safety, although this effect is still contested. Economists have argued that one approach that vehicle manufacturers can use to meet CAFE standards is a reduction in the weight of the vehicles they produce.[18] Lighter vehicles, on average, are linked with greater instances of injury or death when vehicle accidents occur.[19] Opponents of this argument, however, state that it is unclear whether the majority of vehicle weight reductions from CAFE standards result in a conversion from mid-sized cars to small cars (which could increase fatalities) or cause manufacturers to limit the production of their largest cars and light trucks (which could actually improve overall vehicle safety).[20]

Nevertheless, it is clear that CAFE-like standards pose a great risk of producing detrimental consequences. Thus, EPA would be entirely justified in refusing the petitioners' request to promulgate them as a means of restricting the emission of carbon dioxide from motor vehicles.

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emissions in certain areas); Robert N. Stavins, *Vintage-Differentiated Environmental Regulation*, 25 STAN. ENVTL. L.J. 29, 48-49 (2006) (regulations that impose standards for new automobiles depress sales and have "extended the useful lives of cars on the road, and therefore can increase aggregate emissions," thereby compromising the cost-effectiveness of such regulations; therefore, "alternative regulatory approaches merit ongoing exploration").

[18] Robert W. Crandall & John D. Graham, *The Effect of Fuel Economy Standards on Automobile Safety*, 32 J.L. & ECON. 97, 97 (1989).

[19] *Id.* at 98.

[20] Paul R. Portney, Ian W.H. Parry, Howard K. Gruenspecht & Winston Harrington, *The Economics of Fuel Economy Standards*, 17 J. ECON. PERSPECTIVES 203, 211-212 (2003).

B. Zero-Emission-Vehicle Requirements Also Would Produce Adverse Consequences

A ZEV-mandate also would produce a number of adverse consequences, the most problematic of which would be likely net *increases* in the emissions of non-GHG pollutants. In fact, the category "zero emissions vehicle" is a misnomer: ZEVs *do* produce emissions, just not from the tailpipe. Thus, electric cars – the only ZEV yet to be produced on any wide-scale basis – produce significant amounts of pollutants resulting from the production of electricity, because their batteries must be recharged.[21] Once an electric car's battery is drained, the car requires significant quantities of electricity before it can be driven, and that electricity is generally produced by a fossil fuel or nuclear generation unit.[22] In addition, the lead-acid batteries used in ZEVs pose risks of increased emissions of lead and other toxic metals and will require the processing and recycling of many times more lead than is found in conventional vehicles.[23]

In addition to the increased non-GHG pollutants associated with ZEVs, a ZEV mandate also would provide great incentive for consumers to retain their older combustion engine vehicles for longer periods of time. When estimating the effect on net pollution from California's mandate for the sale of ZEVs, Howard Gruenspecht found that California's ZEV mandate would substantially increase vehicle emissions of reactive organic gases and nitrogen oxides, on net.[24] In particular, he found that the increase in such emissions from the

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[21] GAO, *Electric Vehicles: Likely Consequences of U.S. and Other Nations' Programs and Policies,* PEMD-95-7, Dec. 30, 1994, at 111.

[22] *Ibid.*

[23] *Cf.* Howard Gruenspecht, *Zero Emission Vehicles: A Dirty Little Secret*, RESOURCES, Winter 2001, at 7, available at http://rff.org/rff/Publications/Resource_Articles.cfm.

[24] See *id.* at 8.

increase in the retention of existing vehicles would be between 3 and 15 times greater than the decrease in emissions enjoyed from ZEVs.[25]

In summary, a ZEV mandate also would produce significant adverse consequences. Thus, EPA's policy judgment not to promulgate such a mandate was a reasonable exercise of the agency's discretion.

III. THE STANDARD-SETTING REGULATIONS PROPOSED BY PETITIONERS BEFORE EPA WOULD YIELD LOWER NET BENEFITS THAN OTHER REGULATORY ALTERNATIVES.

The petition for rulemaking sought regulation under Section 202(a) of the Clean Air Act, which requires EPA in specified circumstances to regulate by setting "standards" for emissions of pollutants from new motor vehicles. See Petition for Rulemaking, JA 5, 6-7, 15, 16, 21-44; see also Pet. Br. 3 ("In 1999, the International Center for Technology Assessment and other parties petitioned EPA to set standards for four chemicals emitted by new motor vehicles: carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons").

As this Court has recognized, under Title II of the CAA, which includes Section 202(a), "standards" refers to "requirements such as numerical emission levels with which vehicles or engines must comply, or emission-control technology with which they must be equipped." *Engine Mfrs. Ass'n* v. *South Coast Air Quality Mgmt. Dist.*, 541 U.S. 246, 253 (2004) (citations omitted; citing subsections 202(a)(3)(B)(ii) and 202(a)(6)).

As noted above, the petitioners before EPA primarily sought standards-setting regulations in the form of CAFE requirements or a ZEV mandate. See page 6, note 5, *supra*. The CAFE and ZEV mandates proposed by the petitioners before EPA would involve the imposition of performance standards.

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[25] *Ibid.*

In general, regulation through performance standards is preferable to regulation by means of design standards.[26] See, *e.g.*, CASS R. SUNSTEIN, RISK AND REASON: SAFETY, LAW, AND THE ENVIRONMENT 270 (2002) ("A 'performance standard,' telling people (for example) to reduce sulfur dioxide emissions to a certain level, is better than a technology requirement [*i.e.*, design standard] simply because it is more flexible and allows companies to meet the standard as they choose").

Nevertheless, despite the general superiority of performance standards to design standards, there can be still more cost-effective ways to regulate, depending on the circumstances. For instance, a carbon tax or marketable permits for carbon reduction both are likely to be more cost-effective approaches to controlling carbon dioxide emissions than would CAFE regulations or a ZEV mandate. As Professor Sunstein notes in connection with the use of tax schemes for regulating pollutants,

> [b]ut much of the time, a still better approach [than performance standards] is to impose a tax on harmful behavior and to let market forces determine the response to the increased cost. In many settings, the best approach is for government to impose fees on those who put pollutants into the atmosphere. Consumption of the harm-producing good will decline. People will, for example, be less likely to use high-polluting gasoline; emissions of carbon dioxide, the leading contributor to global warming, will decline.

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[26] For the distinction between performance standards and design standards in the context of motor vehicle regulation, see *DePaepe* v. *General Motors Corp.*, 141 F.3d 715, 718 (7th Cir. 1998) ("Design standards specify what a component of a vehicle must be; performance standards specify what the component must accomplish").

SUNSTEIN, RISK & REASON, *supra*, at 270.[27]

The use of alternative incentive-based regulatory approaches would afford regulated entities greater flexibility than would the performance standards advocated by the petitioners before EPA. Such approaches would be likely to yield higher net benefits than would CAFE regulations or a ZEV mandate. For example, these alternative approaches could be more cost-effective than CAFE regulations or a ZEV mandate by achieving the same overall level of emissions reductions for carbon dioxide at a lower cost. In these circumstances, EPA's rejection of the petition seeking to force it to impose CAFE or ZEV regulation was not arbitrary or capricious but perfectly reasonable.[28]

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[27] See also William J. Baumol, *On Taxation and the Control of Externalities*, 62 AM. ECON. REV. 307, 319 (1972) (a system based on specified standards for pollutants and taxes on emissions would "avoid[] direct controls with all of their heavy administrative costs and their distortions of consumer choice and inefficiencies"; "unlike any system of direct controls, it promises, at least in principle, to achieve decreases in pollution or other types of damage to the environment at minimum cost to society"); Warwick J. McKibbin & Peter J. Wilcoxen, *The Role of Economics in Climate Change Policy*, 16 J. ECON. PERSPECTIVES 107, 107 (2002) ("hybrid policy, combining the best features of" a tradable permit system and an emissions tax "would be an efficient and practical approach" to climate change regulation). For a discussion of economically efficient climate change policies in a global context, see WILLIAM D. NORDHAUS & JOSEPH BOYER, WARMING THE WORLD: ECONOMIC MODELS OF GLOBAL WARMING 121-144 (2000).

[28] See, *e.g.*, Andrew W. Kleit, *Impacts of Long-Range Increases in the Fuel Economy (CAFE) Standard*, 42 ECON. INQUIRY 279, 293 (2004) ("increases in CAFE standards above current levels are neither cost-effective nor cost-beneficial" and would amount to "12 times the cost of a gasoline tax increase that would save the same amount of fuel"); *cf.* McKibbin & Wilcoxen, *supra* note 27, at 127 (criticizing as "deeply flawed" policies that set "rigid targets and timetables for emissions reductions" and commending a more

* * * * *

In sum, EPA acted reasonably in rejecting the petitioners' request for CAFE regulations or a ZEV mandate to address emissions of carbon dioxide from motor vehicles. The emission of GHGs is not only a multi-country problem but also a multi-sector problem. In addition, the regulations sought by the petitioners before EPA could produce a number of adverse consequences. Incentive-based mechanisms, such as carbon taxes or marketable permits, would likely be more cost-effective than CAFE regulations or a ZEV mandate, and merit further consideration.

CONCLUSION

The decision of the court of appeals should be affirmed.

Respectfully submitted.

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flexible approach, such as one that combines tradable permits with an emissions tax).

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In The
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COMMONWEALTH OF MASSACHUSETTS, et al.,

Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, et al.,

Respondents.

On Writ Of Certiorari To The United States Court Of Appeals For The District Of Columbia Circuit

BRIEF *AMICI CURIAE* OF ROBERT H. BORK, RONALD A. CASS, DOUGLAS W. KMIEC, RONALD D. ROTUNDA, AND JOHN YOO IN SUPPORT OF RESPONDENT UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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Departments of Veterans Affairs and Housing and Urban Development, and Independent Agencies Appropriations Act, 2000, Pub. L. No. 106-74, tit. III, 113 Stat. 1047, 1080 (1999) 8

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Control of Emissions from New Highway Vehicles and Engines, 68 Fed. Reg. 52,922, 52,928 (Aug. 8, 2003) ..... *passim*

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Office of the Press Secretary, White House Fact Sheet: President Bush and the Asia-Pacific Partnership on Clean Development (July 27, 2005), *available at* http://www.state.gov/g/oes/rls/fs/50314.htm 9

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Statement of the President, June 11, 2001, *available at* http://www.whitehouse.gov/news/releases/2001/06/20010611-2.html 6, 8

"Don't despair: Most of the news on the climate change front is bad, but not all of it," *The Economist*, Dec. 10, 2005, at 11 23

INTEREST OF *AMICI CURIAE*[1]

Amici are, or have been, law professors specializing in constitutional law, international law or administrative law. Each has a personal and professional interest in the status and development of the law in these areas, and particularly in maintenance of the proper role of the federal courts in our constitutional system. In this regard, *amici* believe that the questions raised by this case now before the Court are of the highest importance, and that the Court's consideration of this matter would benefit from their views. The individual qualifications of *amici* are as follows:

Robert H. Bork is currently a Distinguished Fellow at the Hudson Institute, Washington D.C. He received his B.A. and his J.D. from the University of Chicago. Judge Bork was the Alexander M. Bickel Professor of Public Law at the Yale Law School from 1962 to 1981. He also has served as Solicitor General of the United States (1973-1977) the acting U.S. Attorney General (1973-1974) and judge, United States Court of Appeals for the District of Columbia Circuit (1982-1988).

Ronald A. Cass is the Dean Emeritus of Boston University School of Law, where he served as Dean from 1990-2004, the Chairman of the Center for the Rule of Law, and the co-Chair of the American Bar Association International Law Section, Intellectual Property Committee. An expert on intellectual property, antitrust, and

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[1] Pursuant to Rules 37.3(a) and 37.6, the undersigned state the parties have consented to the filing of this brief, that no counsel for any party authored this brief in whole or in part, and that no person or entity other than the *amici* and their counsel made a monetary contribution to the preparation or submission of this brief.

administrative law, Dean Cass has previously served as a Chairman of the American Bar Association Administrative Law Section, and as a professor at the University of Virginia and Boston University. He has a B.A. from the University of Virginia and a J.D. from the University of Chicago.

Douglas W. Kmiec is the Chair and Professor of Constitutional Law at Pepperdine University. He received his B.A. from Northwestern University and his J.D. from University of Southern California. Professor Kmiec has served as Head of the Office of Legal Counsel at the U.S. Department of Justice, as the Dean and St. Thomas More Professor of Law at The Catholic University of America, and as Professor of Law and the director of the University of Notre Dame's Center on Law and Government.

Ronald D. Rotunda is the George Mason University Foundation Professor of Law at the George Mason University School of Law. In the 1990s, he was the Constitutional Law Adviser to the Supreme National Council of Cambodia, helping draft that nation's first democratic constitution, and a consultant on constitutions and judicial codes to various emerging democracies in Eastern Europe. Professor Rotunda was the assistant majority Counsel for the Watergate Committee and, most recently, the Special Counsel to the General Counsel of the Department of Defense. He has co-authored several major works on constitutional law and legal ethics. Professor Rotunda has a B.A. and J.D. from Harvard University.

John Yoo is Professor of Law at the University of California, Berkeley School of Law – Boalt Hall. He earned his B.A. from Harvard University and his J.D. from Yale

University Law School. He has served as General Counsel to the U.S. Senate Judiciary Committee and as a Deputy Assistant Attorney General in the Office of Legal Counsel at the U.S. Department of Justice, where he was active in issues involving foreign affairs, national security and the separation of powers.

The views expressed herein are those of the individual *amici*, and do not necessarily represent the views of any group or organization with which any of them may be affiliated.

SUMMARY OF ARGUMENT

This case raises fundamental questions about the Judiciary's proper role in our constitutional scheme of government. It is, in fact, part of a multi-faceted effort to draw the federal courts into one of the most important and controversial foreign policy and political battles of our time – the issue of global climate change. To their credit, Petitioners have made no attempt to conceal this objective. As claimed in the original petition for rulemaking submitted to EPA in 1999: "the Administrator has a mandatory duty to regulate greenhouse gas emissions from new motor vehicles under § 202(a)(1) of the CAA. Petitioners urge the Administrator *to reduce the effects of global warming* by regulating the emission of greenhouse gases from new motor vehicles." Petition for Rulemaking and Collateral Relief Seeking the Regulation of Greenhouse Gas Emissions From New Motor Vehicles under § 202 of the Clean Air Act (Oct. 20, 1999), J.A. 5, 15 (emphasis added).

Global climate change is a highly complex phenomenon which, if Petitioners' claims regarding the scope and

seriousness of the problem are correct, can only be solved by a worldwide consensus in support of a worldwide solution. The United States' contribution to that solution must come as a result of actions taken by the political branches of government. Under our Constitution, the federal courts have a limited jurisdiction that is far more restrained than that which would support the relief the Petitioners seek. Indeed, even assuming that Petitioners have identified a sufficiently concrete and individualized injury resulting from global climate change, they have neither shown that EPA's failure to regulate emissions of "greenhouse gases," such as carbon dioxide, from new motor vehicles sold in the United States caused that harm, nor have they demonstrated how requiring such regulation would be likely to redress it. As a result, Petitioners do not have Article III standing to pursue this case.

ARGUMENT

I. Introduction

Global climate change is, of course, a complex political and scientific issue of enormous importance to the United States and the entire community of nations. As EPA explained in denying the petition for rulemaking in this case, climate change "has been discussed extensively during the last three Presidential campaigns; it is the subject of debate and negotiation in several international bodies; and numerous bills have been introduced in Congress over the last 15 years to address the issue." Control of Emissions from New Highway Vehicles and

Engines, 68 Fed. Reg. 52,922, 52,928 (Sept. 8, 2003), Pet. App. A-78.[2]

The relief Petitioners seek would, in fact, directly contravene current United States policy and could

[2] Congress has, in fact, taken a determined, if cautious, approach to global climate change for nearly thirty years - beginning with the National Climate Program Act of 1978, Pub. L. No. 95-367, 92 Stat. 601 (1978). This law required the establishment of a National Climate Program to "assist the Nation and the world to understand and respond to natural and man-induced climate processes and their implications," § 3, 92 Stat. at 601. The Global Climate Protection Act of 1987, Pub. L. No. 100-204, tit. XI, §§ 1103, 101 Stat. 1407, 1408-09 (1987), directed the Secretary of State to coordinate U.S. global climate change diplomacy. The Global Climate Protection Act also directed EPA to develop and propose to Congress a coordinated national policy on the issue. § 1104, 101 Stat. at 1409. The Global Change Research Act of 1990, Pub. L. No. 101-606, 104 Stat. 3096 (1990), established a Committee on Earth and Environmental Sciences to coordinate a ten-year research program, § 102, 104 Stat. at 3097, directed the President to establish a U.S. Global Change Research Program to "improve understanding of global change," § 103, *id.* at 3098, and provided for scientific assessments that "analyze[] current trends in global change" every four years, § 106, *id.* at 3101. This law also advised the President to direct the Secretary of State to "initiate discussions with other nations leading toward international protocols and other agreements to coordinate global change research activities," and "the development of energy technologies which have minimally adverse effects on the environment," § 203, *id.*, at 3102-03. The Energy Policy Act of 1992, Pub. L. No. 102-486, tit. XVI, §§ 1601-05, 106 Stat. 2776, 2999-3008 (1992), also required the Secretary of Energy to conduct several assessments relating to greenhouse gases and report to Congress. In particular, section 1604 called for a report of a "comparative assessment of alternative policy mechanisms for reducing the generation of greenhouse gases," § 1604, 106 Stat. at 3002. The alternative policy mechanisms to be assessed included: (1) "caps for the generation" of such gases from "major sources and emissions trading programs"; (2) "Federal standards for energy efficiency for major sources," including "power plants, industrial processes, automobile fuel economy, appliances, and buildings"; and (3) "[v]arious Federal and voluntary incentives programs." *Id.*

severely undermine the President's ability to achieve U.S. climate change policy goals at the international level. While some of the *amici* on this brief would question whether it is responsible *policy* for the United States to defer unilateral initiative on this issue, it is the policy choice of the politically accountable branches of our government to seek a comprehensive climate change solution and not to pursue the individualized approach Petitioners demand. President Bush made this position clear in 2001: "[e]ven with the best science, even with the best technology, we all know that the United States cannot solve this global problem alone. . . . [O]ur approach must be based on global participation, including that of developing countries whose net greenhouse gas emissions now exceed those in the developed countries." Statement of the President, June 11, 2001, *available at* http://www.whitehouse.gov/news/releases/2001/06/20010611-2.html, [hereinafter "Presidential Statement of June 11, 2001"].

This policy is, in fact, currently embodied in the United Nations Framework Convention on Climate Change ("UNFCCC"), June 12, 1992, S. Treaty Doc. No. 102-38, 1771 U.N.T.S. 107, which established an international framework to address global climate change. The States Parties to the UNFCCC have agreed to "[f]ormulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, and measures to facilitate adequate

adaptation to climate change." UNFCCC, *supra*, art. 4, § 1(b).[3]

Since the UNFCCC came into force in 1994, annual "conferences of the parties" ("COP") have been held for the purpose of continuing multilateral climate change negotiations. *See* John R. Justus & Susan R. Fletcher, Congressional Research Service, *CRS Issue Brief for Congress: Global Climate Change*, 12 (Aug. 11, 2006), *available at* http://fpc.state.gov/documents/organization/73983.pdf.

These meetings have proven to be highly contentious and have highlighted the very deep differences in approach to the climate change issue that separate the United States from a number of its European allies. *See id.* at 13-17. These differences involve the very type of "remedy" Petitioners seek in this case: mandatory limitations on American greenhouse gas emissions without regard to other important aspects of a comprehensive climate change strategy, including more efficient energy technologies, carbon sequestration projects, and significant greenhouse gas emissions reduction commitments from the developing world. *See id.*

The UNFCCC did not impose binding emissions reductions requirements – although this was a "central issue" in the negotiations surrounding that agreement. 68 Fed. Reg. at 52,926, Pet. App. A-70. Mandatory limitations are contemplated by the UNFCCC's "Kyoto Protocol," which the United States has resolutely refused to ratify. It

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[3] In addition, pursuant to Articles 4 and 12 of the UNFCCC, the United States is committed to submit an annual national emissions inventory to the UNFCCC's secretariat. *Id.* arts. 4, 12.

has not ratified that agreement largely because the President perceives the Kyoto Protocol as not providing for a general global climate change solution that includes the developing countries. *See* Presidential Statement of June 11, *supra*.[4] Indeed, in the months leading up to the Kyoto meeting in 1997, the Senate passed (by a vote of 95-0) S. Res. 98, rejecting any agreement that did not require emissions limitations by developing countries. S. Res. 98, 105th Cong. (1997); *see also* 68 Fed. Reg. at 52,927, Pet. App. A-75. From 1998 through 2002, Congress specifically prohibited EPA from implementing the Kyoto Protocol without Senate approval of the treaty.[5] It stopped enacting such legislation only after President Bush announced that the United States would not ratify the Kyoto Protocol. *See* Pub. L. No. 107-73, tit. III, 115 Stat. 651, 683 (2002) (for fiscal year 2002).

Thus, the critical tenet of U.S. climate change policy is that this challenge can be met only by a truly global

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[4] Although President Clinton signed the Kyoto Protocol on November 12, 1998, he did not seek the Senate's advice and consent to ratification – "out of concern that the Senate would reject the treaty" in light of its controversial imposition of carbon dioxide emissions limitation requirements on the United States but not on developing nations. 68 Fed. Reg. at 52,927, Pet. App. A-75.

[5] *See* Departments of Veterans Affairs and Housing and Urban Development, and Independent Agencies Appropriations Act, 1999, Pub. L. No. 105-276, tit. III, 112 Stat. 2461, 2496 (1998) (appropriating funds to EPA on the condition that "none of the funds appropriated by this Act shall be used to propose or issue rules, regulations, decrees or orders for the purpose of implementation, or in preparation for implementation, of the Kyoto Protocol"); Pub. L. No. 106-74, tit. III, 113 Stat. 1047, 1080 (1999) (placing identical conditions on appropriations for fiscal year 2000); Pub. L. No. 106-377, app. A, tit. III, 114 Stat. 1441, 1441A-41 (2000) (for fiscal year 2001). *See also* 68 Fed. Reg. at 52,927-28, Pet. App. A-72 – A-78.

response which includes developing countries and takes full account of the need for new technologies and carbon sequestration efforts.[6] Since 2001, U.S. diplomats have worked toward that end, both at annual COP meetings and in bilateral negotiations. In July, 2005, moreover, President Bush announced formation of the Asia-Pacific Partnership on Clean Development and Climate – an agreement including China, India and South Korea – all major greenhouse gas emitters excused from making reductions under the Kyoto Protocol. The other participants in the Partnership are the United States, Australia and Japan. *See* Office of the Press Secretary, White House Fact Sheet: President Bush and the Asia-Pacific Partnership on Clean Development (July 27, 2005), *available at* http://www.state.gov/g/oes/rls/fs/50314.htm.

Petitioners seek to remake U.S. climate change policy through litigation in the federal courts. Indeed, many of the Petitioners are currently involved in a case before the United States Court of Appeals for the Second Circuit, *Connecticut, et al. v. American Elec. Power Co.*, No. 05-5104 (oral argument heard June 7, 2006), in which they are trying to impose mandatory greenhouse gas emissions limitations on stationary sources through the use of a "public nuisance" claim.[7] The District Court properly

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[6] The Administration's overall position has been described by EPA as a "comprehensive approach to global climate change that calls for near-term voluntary actions and incentives along with programs aimed at reducing scientific uncertainties and encouraging technological development so that the government may effectively and efficiently address the climate change issue over the long term." 68 Fed. Reg. at 52,930, Pet. App. A-82.

[7] Similarly, the State of California, also a Petitioner in the instant case, recently filed suit against six American and Japanese automobile manufacturers in the United States District Court for the Northern

(Continued on following page)

dismissed this suit as nonjusticiable. *See Connecticut v. American Elec. Power Co.*, 406 F. Supp. 2d 265 (S.D.N.Y. 2005). Indeed, there are good constitutional reasons why courts in general, and especially the Court in this particular case, should steer clear of the global climate change melee.

II. Petitioners Lack Article III Standing.

Petitioners do not meet the minimum standing requirements the Constitution demands of anyone who wants an issue – however important or pressing – resolved by the federal judiciary. These are not prudential barriers; they arise from Article III's limitation of the federal judicial power to "Cases" and "Controversies." As this Court has made clear many times: "Art. III limit[s] the federal judicial power 'to those disputes which confine federal courts to a role consistent with a system of separated powers and which are traditionally thought to be capable of resolution through the judicial process.'" *Valley Forge Christian College v. Americans United for Separation of Church and State*, 454 U.S. 464, 472 (1982) (quoting *Flast v. Cohen*, 392 U.S. 83, 97 (1968)).

Standing, the Court has cautioned, is not "merely a troublesome hurdle to be overcome if possible so as to reach the 'merits' of a lawsuit which a party desires to have adjudicated; it is a part of the basic charter promulgated by the Framers of the Constitution at Philadelphia

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District of California, basing another "public nuisance" claim on the alleged effects of "global warming." *See* California Attorney General Press Release, Attorney General Lockyer Files Lawsuit Against "Big Six" Automakers for Global Warming Damages in California (Sept. 20, 2006), *available at* http://ag.ca.gov/newsalerts/release.php?id=1338.

in 1787." *Valley Forge*, 454 U.S. at 476. Standing is also, of course, an aspect of jurisdiction of which the Court must satisfy itself before proceeding. *DaimlerChrysler Corp. v. Cuno*, __ U.S. __, 126 S. Ct. 1854, 1860 (2006). As the parties "invoking federal jurisdiction[,]" Petitioners "bear[] the burden of establishing its existence." *Steel Co. v. Citizens for a Better Environment*, 523 U.S. 83, 104 (1998).

A. Petitioners' "Injury" is Speculative.

To establish standing, Petitioners must show that they have suffered an actual, legally cognizable injury because of the defendant's actions, and that this injury will likely be remedied by a favorable judicial decision. *See Allen v. Wright*, 468 U.S. 737, 751 (1984) ("A plaintiff must allege personal injury fairly traceable to the defendant's allegedly unlawful conduct and likely to be redressed by the requested relief."). Petitioners have not made this showing. As Judge Sentelle explained in his dissenting and concurring opinion below, in seeking a judicial remedy for global climate change, Petitioners have raised only general grievances based on an alleged injury that – if severe – is shared by humanity as a whole:

> Even in the light most favorable to the petitioners, in the end [their claims] come down to this: Emission of certain gases that the EPA is not regulating may cause an increase in the temperature of the earth – a phenomenon known as "global warming." This is harmful to humanity at large. Petitioners are or represent segments of humanity at large.

Massachusetts v. EPA, 415 F.3d 50, 60 (D.C. Cir. 2005) (Sentelle, J. dissenting and concurring), Pet. App. A-18.

Moreover, although Judge Tatel below concluded that Massachusetts had at least shown a particularized injury – "loss of land within its sovereign boundaries" because of rising sea levels, *id.* at 65 – this injury, like the many others Petitioners claim, is entirely speculative. Even if sea levels continue rising, Massachusetts' alleged injury is contingent upon certain assumptions about the likely economic and social consequences of having more of its existing territory below sea level.[8] Indeed, all of Petitioners' claimed injuries are dependent upon predictions and projections about how the Earth's climate has and will react to warming temperatures.[9]

Although these are the very types of predictions and assumptions that policymakers must often act upon, they are not sufficient to establish a legally cognizable injury. As the Court explained in *Los Angeles v. Lyons*, 461 U.S. 95, 102 (1983), "[a]bstract injury is not enough. The plaintiff must show that he 'has sustained or is immediately in danger of sustaining some direct injury' . . . and the injury or threat of injury must be both 'real and

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[8] States, of course, have many and varied interests – but it is unclear what legal principle would give them a judicially protectable interest in simply maintaining the status quo, or otherwise being insulated from change regardless of any actual damage that change may cause.

[9] Thus, for example, an increase in localized flooding (noted by one of Petitioners' Declarants as a likely result of global warming, *see* MacCracken Decl. ¶ 25, J.A. at 235) may, or may not, result in any tangible damage to Petitioners. This will depend entirely upon the severity and location of the actual events, when and if they occur. State governments, moreover, are not responsible for the costs of any and all damage occurring within their borders. Any loss to Massachusetts (or other states) here depends upon the assumption that state property itself will be affected, or that states will *choose* to take upon themselves some or all of the costs that may be incurred by others.

immediate,' not 'conjectural' or 'hypothetical.'" In that case, the Court denied standing because the plaintiff – who sought an injunction against the use of "chokeholds" by the local police – could only establish injury based on a series of assumptions about his conduct and that of others. *Lyons*, 461 U.S. at 105-06. The same is true in this case.

B. Petitioners Fail to Show Causation.

Petitioners also must show that the legally cognizable injury of which they complain was actually *caused by the agency action they challenge.* Petitioners have not made this critical showing. Indeed, based on Petitioners' own evidence, the causes of their alleged injuries began before the United States was founded as an independent nation and have involved human activities (*i.e.,* the "Industrial Revolution") that have been taking place on a global scale for more than two centuries.

Thus, for example, Dr. MacCracken's explanation of "the strong consensus of opinion among qualified scientific experts" can be summarized as follows: (1) Greenhouse gas concentrations have been increasing since 1750 because of human activity and are "very likely the dominant cause" of a warming climate during the 20th century; (2) "The most probable scenarios of future greenhouse gas emissions indicate that, in the absence of policy change, atmospheric concentrations of greenhouse gases will continue to rise steadily"; (3) Global warming has already had important environmental impacts, including warming oceans and melting glaciers that contribute to rising sea levels; and (4) the additional environmental impacts of "projected global warming" will include additional rises in sea level as well as "severe and irreversible changes to important

natural ecosystems." MacCracken Declaration, J.A. at 224-25, 229.

All of this may or may not be true, but it does not support the conclusion that EPA's failure to regulate greenhouse gas emissions from new motor vehicles sold in the United States has caused the problem. Here, the declarant simply claims that "[a]chievable reductions in emissions of CO_2 and other greenhouse gases from U.S. motor vehicles would significantly reduce the build-up in atmospheric concentrations of these gases and delay and moderate any of the adverse impacts of global warming," that the "U.S. transportation sector (mainly automobiles)" is responsible for "about 7% of global fossil fuel emissions," and that "emission reductions must be initiated in the near future in order to significantly reduce and delay the impacts of global warming." *Id.* at 225-26, 238-39.

Only through a series of additional assumptions about the importance of greenhouse gas emissions from new motor vehicles in the United States to the overall global climate change phenomenon – which Petitioners themselves argue can be traced to events beginning more than a century before motor vehicles were sold in the United States – could the Court match the injuries claimed by Petitioners to the agency action challenged in this suit. This, however, would be exactly the type of rank speculation the Court has held to be impermissible in determining standing.

In this connection, *Allen v. Wright* is especially instructive. In that case, the Court denied standing because of the speculative nature of plaintiffs' chain of causation and redressability claims. The injury plaintiffs asserted was "their children's diminished ability to receive an education in a racially integrated school." *Allen*, 469 U.S.

at 756. It resulted, they claimed, from IRS rules that failed to "detect false certifications of nondiscrimination policies" at private schools. *Id.* at 745. More rigorous standards, plaintiffs evidently believed, would have led to the denial of nonprofit tax status to additional *sub silencio* segregated private schools, reducing the number of such institutions in otherwise desegregating public school districts, and thus improving their children's chances of a desegregated education.

Although the Court fully acknowledged that the injury identified by plaintiffs was "one of the most serious injuries recognized in our legal system," it concluded that that injury was not "fairly traceable" to the challenged agency action. *Id.* at 756-57. It reasoned that "[t]he line of causation between that conduct [an effective grant of tax exempt status to some racially discriminatory schools] and desegregation of respondents' schools is attenuated at best." *Id.* at 757. The Court went on to explain that the chain of causation requirement would be met only if "there were enough racially discriminatory private schools receiving tax exemptions in respondents' communities for withdrawal of those exemptions to make an appreciable difference in public school integration," *and* if this result was not further dependent upon the independent decisions to be made by private school administrators and parents if the exemptions were withdrawn. *Allen*, 468 U.S. at 758.

Thus, if the United States were, in the future, to commit to reducing overall carbon emissions by, for example, 200 million metric tons per year, and, as a result of this Court's decision, EPA ultimately passed regulations that achieve reductions on the order of 20 million metric tons, there is no reason why those reductions would not be credited against the overall 200 million metric tons goal.

At best, a Court order could shape *where* future reductions come from – mobile sources versus stationary sources – rather than shaping the overall amount of future reductions. Petitioners' alleged harm would be entirely dependent on a decision by the political branches of government to mandate emissions reductions from new motor vehicles that are cumulative to, not a replacement for, reductions from other emissions sources. As in *Allen*, this independent decision by other branches of government interrupts the chain of causation linking EPA's denial of the rulemaking petition to the allegations of harm to Petitioners' interests.

The Court found a chain of causation to be similarly speculative, and hence unacceptable for standing purposes, in *Simon v. Eastern Kentucky Welfare Rights Organization,* 426 U.S. 26 (1976). There, a number of indigents claimed that their access to non-emergency hospital services was effectively limited by federal rules allowing nonprofit hospitals which limited their treatment of indigents to emergency room care to enjoy tax status as charities. The Court rejected the suit on standing grounds because the injury complained of – fewer indigent hospital services – was not fairly traceable to the challenged tax rules. It reasoned that "[i]t is purely speculative whether the denials of service specified in the complaint fairly can be traced to petitioners' 'encouragement' or instead result from decisions made by the hospitals without regard to the tax implications." *Simon*, 426 U.S. at 42-43.

The same can be said for any connection between Petitioners' "injuries" and EPA's denial of the rulemaking petition in the instant case. To establish the necessary causation here, Petitioners would have to show that EPA's failure to regulate new motor vehicle greenhouse gas

emissions in the United States resulted in the climatological changes they predict will bring about the environmental harm they fear. Because human activities have been contributing greenhouse gas emissions to the atmosphere since 1750 (and actually for millennia if the use of wood, peat, and coal for fuel – all sources of carbon dioxide emissions – is taken into account), it is impossible for Petitioners to make this showing.

Assuming that the lack of United States regulation of new motor vehicle emissions has caused Petitioners' alleged injury would be far more speculative than concluding that IRS tax policies were responsible for the existence of too many secretly discriminatory private schools, or hospital decisions to limit indigent services. Indeed, it may well be that anthropogenic greenhouse gas emissions sufficient to cause the global warming trends at the base of Petitioners' injury claims had already been added to the atmosphere by the time the automobile was invented in the late 19th century.

Moreover, the actual damage Petitioners claim may be caused by entirely different phenomena. Thus, for example, Professor Kirshen – upon whose declaration Judge Tatel relied below – notes that

> In addition to these factors related to global warming, in the Boston area, land subsidence also contributes significantly to sea level rise. Over the past century, approximately 15 cm (5.9 inches) of the rise in sea level that has occurred in Boston is attributable to land subsidence. This rise in sea level due to subsidence would be expected in the next century in the Boston area regardless of, and in addition to, the projected rise in sea level due to climate change.

Decl. of Paul H. Kirshen, ¶ 6 (attached). (This issue was also noted by Dr. MacCracken. *See* MacCracken Decl., *supra* ¶ 23, J.A. at 234.) Petitioners have not shown how they would establish that the land losses Massachusetts fears would result from rising sea levels were caused by anthropogenic induced climate change, itself caused by EPA's failure to regulate greenhouse gas emissions from new motor vehicles sold in the United States, rather than from natural or manmade subsidence or other phenomena, including the state's own regulatory policies (or lack thereof). Petitioners must be able to show in a "concretely demonstrable way," that the challenged agency action has directly or indirectly caused the harm of which they complain. To state that it *might* be one of several causes is insufficient to satisfy the causation element of standing. *Warth v. Seldin*, 422 U.S. 490, 503 (1975).

C. Petitioners Fail to Show Redressability.

Finally, to meet their burden of establishing Article III standing, Petitioners must show how the ultimate relief they seek – an order requiring EPA to regulate greenhouse gas emissions from new motor vehicles in the United States – will remedy their particular injuries. As the Court cautioned in *Steel Co.*, "[r]elief that does not remedy the injury suffered cannot bootstrap a plaintiff into federal court; that is the very essence of the redressability requirement." 523 U.S. at 107. Given the nature and scope of the global climate change problem, it is entirely speculative whether such an order would benefit Petitioners in any way.

The Court most recently addressed the redressability requirement in *Cuno*, 126 S. Ct. at 1854. In that case, a

group of Toledo, Ohio, taxpayers sought federal court intervention against various local tax credits designed to benefit manufacturers. The Court rejected this claim to "taxpayer" standing both because plaintiffs failed to show how they were "injured" in any manner different from all other taxpayers *and* because "[e]stablishing injury requires speculating that elected officials will increase a taxpayer-plaintiff's tax bill to make up a deficit; establishing redressability requires speculating that abolishing the challenged credit will redound to the benefit of the taxpayer because legislators will pass along the supposed increased revenue in the form of tax reductions. Neither sort of speculation suffices to support standing." *Id.* at 1862-63. The Court also denied plaintiffs the benefit of an exception to the general rule against taxpayer standing for the same reasons. It noted that:

> Any effect that enjoining DaimlerChrysler's [tax] credit will have on municipal funds . . . will not result from automatic operation of a statutory formula, but from a hypothesis that the state government will choose to direct the supposed revenue from the restored franchise to municipalities. This is precisely the sort of conjecture we may not entertain in assessing standing.

Id. at 1866.

This conclusion is consistent with a long line of this Court's precedents. Redressability was critical to its decisions in the *Allen* and *Simon* cases. In *Allen*, the Court ruled that plaintiffs' assumption that a denial of the challenged tax exemptions would cause there to be a larger number of integrated schools was too speculative:

> [I]t is entirely speculative, as respondents themselves conceded in the Court of Appeals, whether

> withdrawal of a tax exemption from any particular school would lead the school to change its policies. It is just as speculative whether any given parent of a child attending such a private school would decide to transfer the child to public school as a result of any changes in educational or financial policy made by the private school once it was threatened with loss of tax-exempt status. It is also pure speculation whether, in a particular community, a large enough number of the numerous relevant school officials and parents would reach decisions that collectively would have a significant impact on the racial composition of the public schools.

Allen, 468 U.S. at 758 [citations omitted]. Similarly, in *Simon*, the Court ruled that plaintiffs lacked standing because

> [i]t is purely speculative whether the denials of service specified in the complaint fairly can be traced to [the IRS'] "encouragement" or instead result from decisions made by the hospitals without regard to the tax implication. It is equally speculative whether the desired exercise of the court's remedial power in this suit would result in the availability to respondents of such services. So far as the complaint sheds light, it is just as plausible that the hospitals to which respondents may apply for service would elect to forgo favorable tax treatment to avoid the undetermined financial drain of an increase in the level of uncompensated services.

426 U.S. at 43.

The requirement that the relief sought must actually redress the injury alleged is equally applicable in the environmental area. Although the Court has at times

permitted environmental plaintiffs to meet the "injury in fact" requirement with allegations of damage to "[a]esthetic and environmental well-being," *see Sierra Club v. Morton*, 405 U.S. 727, 734 (1972), it has never suggested that they may be excused from meeting the constitutionally-based redressability requirement. Thus, in *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 568 (1992), a plurality of the Court noted that, in addition to failing to show injury, petitioners had failed to establish redressability. That case involved a challenge to an Interior Department rule, promulgated under the Endangered Species Act ("ESA"), requiring inter-departmental ESA consultations on projects or actions within the United States but not in foreign countries. Plaintiffs claimed that foreign aid monies administered by the United States Agency for International Development were supporting overseas programs that would harm various endangered species and, consequently, plaintiffs' later ability to observe, work with or enjoy those species.

As an initial matter, the Court in *Lujan* found plaintiffs' allegations insufficient to establish injury in fact because plaintiffs failed to show any imminent injury – such as plans to visit the areas affected by the contested projects. 504 U.S. at 564. A plurality noted that plaintiffs had also failed to meet the redressability requirement. *Id.* at 568. In this instance, a judicial order requiring inter-agency consultations for overseas projects would not have remedied plaintiffs' injury. First, the funding agencies "were not parties to the case." *Id.* Second, because U.S. funds were only part of the financing for the relevant projects, it was "entirely conjectural whether the non-agency activity [by and in foreign countries] that affects respondents will be altered or affected by the agency

activity [plaintiffs] seek to achieve. There is no standing." *Id.* at 571. *See also Warth*, 422 U.S. at 505-06 (plaintiffs' challenge to exclusionary zoning practices was not redressable because even if zoning ordinances were invalidated, plaintiffs could not give "any indication" that suitable low-income housing would actually be constructed); *Linda R.S. v. Richard D.*, 410 U.S. 614 (1973) (plaintiff lacked standing where only result of requested order was jailing a "deadbeat dad" and any payment of actual support to plaintiff was speculative).

Petitioners' redressability claim is similarly contingent upon a number of assumptions regarding the likely actions of individuals, institutions and governments far beyond the Court's authority. It is accordingly unsurprising that one of Petitioners' primary experts on global climate change concentrated his testimony below on the question of whether other countries would follow the United States' lead in regulating carbon dioxide emissions from new motor vehicles. *See* Declaration of Michael P. Walsh (10 June 2004), J.A. 240. (A similar point was also made by Dr. MacCracken, *see* MacCracken Declaration, *supra*, at J.A. 239).

Mr. Walsh's opinion that "efforts to reduce emissions from U.S. motor vehicles would proliferate around the world as other countries again adopted similar regulatory requirements," J.A. 245, is, however, based on the same sort of speculation that this Court has found insufficient to establish standing in the past. Although, it is possible that other countries may choose to follow the United States' lead by imposing greenhouse gas emissions limitations on new motor vehicles, they are plainly not bound to do so and may decide otherwise.

Foreign governments may well take advantage of any competitive benefit new U.S. Clean Air Act regulations might supply them and might actually increase their own greenhouse gas emissions. This is precisely what happened after the United States adopted unilateral regulations on the global environmental issue of ozone depletion. As EPA explained in its notice denying the original petition for rulemaking in this case:

> Early U.S. controls on substances that deplete stratospheric ozone were not matched by many other countries. Over time, U.S. emission reductions were more than offset by emission increases in other countries. The U.S. did not impose additional domestic controls on stratospheric ozone-depleting substances until key developed and developing nations had committed to controlling their own emissions under the Montreal Protocol on Substances that Deplete Stratospheric Ozone.

68 Fed. Reg. at 52,931 n.5, Pet. App. A-86.[10]

EPA also noted the serious difficulties in trying to regulate global greenhouse gas emissions piecemeal:

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[10] Indeed, the Kyoto Protocol is widely viewed as a failure largely because of the difficult international interactions and policy issues involved. As explained in *The Economist* magazine:

> Kyoto's failure is hardly surprising. Agreeing on how to control carbon emissions is even harder than agreeing on how to promote free trade. Both issues require lots of countries to make political sacrifices to achieve a collective good; but at least in the case of free trade, the benefits accrue swiftly. The costs of cutting carbon emissions, by contrast, pile up in the short term, while the benefits are far-off and uncertain.

"Don't despair: Most of the news on the climate change front is bad, but not all of it," *The Economist*, Dec. 10, 2005, at 11.

> Unilateral EPA regulation of motor vehicle GHG emissions could also weaken U.S. efforts to persuade key developing countries to reduce the GHG intensity of their economies. Considering the large populations and growing economies of some developing countries, increases in their GHG emissions could quickly overwhelm the effects of GHG reduction measures in developed countries. Any potential benefit of EPA regulation could be lost to the extent other nations decide to let their emissions significantly increase in view of U.S. emissions reductions.

68 Fed. Reg. at 52,931, Pet. App. A-86.

By contrast, the likely impact of a judgment on plaintiffs' injury was far less speculative in *Bennett v. Spear*, 520 U.S. 154 (1997), where the Court found redressability sufficient for standing purposes. In that case, plaintiffs challenged a biological opinion, issued by the U.S. Fish and Wildlife Service ("FWS") pursuant to the ESA, after the Bureau of Reclamation determined that it would follow the opinion with respect to certain federal water projects. The plaintiff irrigation districts and ranchers feared that the Bureau's decision would reduce their water supplies. The lower courts dismissed the suit because they concluded that the plaintiffs' interests did not fall within the "zone of interests" protected by Congress in either the ESA or the Administrative Procedure Act citizen suit provisions. *Bennett v. Plenert*, 63 F.3d 915, 919 (9th Cir. 1995). This Court reversed.

First, the Court concluded that the plaintiffs' claims did fall within the "zone of interests" protected by Congress in the relevant legislation. *Bennett*, 520 U.S. at 164. It then addressed the causation and redressability standing

arguments raised by the Government as alternative bases for affirmance. In particular, the Government argued that redressability was not met in that case because the Bureau retained "ultimate responsibility for determining whether and how a proposed action shall go forward." *Id.* at 168. The Court disagreed, explaining that the FWS opinion had, in fact, "alter[ed] the legal regime to which the action agency is subject" in that the Bureau could take future action inconsistent with the opinion only at the risk of violating the ESA. *Id.* at 169-70.

Neither a decision by the Court requiring EPA to impose greenhouse gas emissions limitations on new motor vehicles, nor such a regulation itself, would alter the legal landscape in the manner described by the Court in *Bennett*. It would not prevent Congress from foregoing other emissions reductions in light of those achieved from motor vehicles and foreign states would be bound by neither the ruling nor any ensuring regulations. They would remain at liberty to permit the emission of greenhouse gases from new motor vehicles as they saw fit. Indeed, the regulation Petitioners seek might fail to affect climate change in any material way. Any credible solution must therefore be an international one. As Congress acknowledged when it first addressed the issue in 1978: "[c]limate fluctuation and change occur on a global basis, and deficiencies exist in the system for monitoring global climate changes. International cooperation for the purpose of sharing the benefits and costs of a global effort to understand climate is essential." National Climate Program Act of 1978, Pub. L. No. 95-367, § 2(5), 92 Stat. at 601.

None of this means that global climate change is not a serious issue, or that the Bush Administration's specific policies are the best means of addressing it. Indeed, not all

Amici on this brief agree with the Administration's current approach. They do, however, all agree on the importance of the separation of powers and that climate change must be addressed by the President and Congress, and not by the federal courts. An order granting Petitioners' desired relief would amount, at most, to a "statement" on the global climate change issue. It would not resolve the problem. As the United States courts have accepted and acknowledged since the Republic's founding, they are not in the business of making such statements. Petitioners have not established their right to bring this difficult and complex issue before the Court. Their petition should be dismissed.

CONCLUSION

For the reasons stated above, *Amici* urge the Court to remand this case to the court of appeals with instructions to dismiss it for lack of standing.

Respectfully submitted,

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October 24, 2006

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

COMMONWEALTH OF MASSACHUSETTS, et al.,	)	
Petitioners,	)	
v.	)	No. 03-1361 and
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,	)	consolidated cases (Nos. 03-1362 through 1368)
Respondent.	)	

DECLARATION OF PAUL H. KIRSHEN

I, Paul H. Kirshen, declare as follows:

1. I am the Director of the Tufts Water, Sustainability, Health, and Ecological Diversity (WaterSHED) Center. I am also a Research Professor in the Civil and Environmental Engineering Department of Tufts University and the International Environment and Resource Policy Program of the Fletcher School of Law and Diplomacy.

2. I received a M.S. and Ph.D. in civil engineering from the Massachusetts Institute of Technology, Division of Water Resources, in 1972 and 1975, respectively. I received a Sc.B. in engineering from Brown University in 1970.

3. Since 1986, I have been conducting research in developed and developing countries on the impacts of global climate change on water resources, watershed planning, management and policy, water resources operations, decision support systems, and hydrology. Since 1999, I have been conducting research on the impacts of global

climate change on the metropolitan Boston area. One of the major research topics I have been studying is the effect of sea level rise on the metropolitan Boston coastal zone.

4. I have reviewed and am familiar with the major, peer reviewed scientific literature and international and domestic assessments on climate change, including, among others, the Intergovernmental Panel on Climate Change's (IPCC) *Third Assessment Report* (2001), the IPCC's *Workshop Report, Workshop on Changes in Extreme Weather and Climate Events,* Beijing, China (June 2002), the New England Regional Assessment Group's *Preparing for a Changing Climate: The Potential Consequences of Climate Variability and Change, New England Regional Overview* (2001), the Columbia Earth Institute's *Climate Change and a Global City: The potential Consequences of Climate Variability and Change – Metro East Coast* (2001), and the Pew Center on Global Climate Change's *Sea Level Rise and Global Climate Change: A Review of Impacts to US Coasts* (2000). I have also reviewed the Declaration of Michael MacCracken that is being filed in this case.

5. Based on my educational background, research, consulting, and other professional experiences, and my familiarity with the scientific literature and international and domestic assessments that are widely-accepted among the scientific community, it is my opinion that climate change is occurring and is responsible for an increase in sea level due to melting of ice on land and expansion of ocean water as it is warmed. Such a rise in sea level due to climate change is occurring on the coast of Massachusetts, in the metropolitan Boston area.

6. According to the IPCC's *Third Assessment Report* (2001), and as described in the Declaration of Michael

MacCracken, during the 20th century, a global average sea level rise of 10-20 cm (4-8 inches) has occurred, and, by 2100, it is projected that sea level will rise an average of 9-88 cm (4-35 inches), with the more likely range being 20-70 cm (8-28 inches), due to the meltback of mountain glaciers, warming oceans, and other factors affecting the amount of water stored in reservoirs and underground, all of which are brought about by global warming. In addition to these factors related to global warming, in the Boston area, land subsidence also contributes significantly to sea level rise. Over the past century, approximately 15 cm (5.9 inches) of the rise in sea level that has occurred in Boston is attributable to land subsidence. This rise in sea level due to subsidence would be expected in the next century in the Boston area regardless of, and in addition to, the projected rise in sea level due to climate change.

7. Based on this projected rise in sea level, more coastal land in the metropolitan Boston area is at risk of being permanently lost due to inundation and also of being periodically or temporarily lost due to flooding associated with storm surge.

8. In addition to permanent losses of land in the metropolitan Boston area, sea level rise will lead to more frequent and severe storm surge flooding events along the coast. Such periodic storm surge flooding is separate and apart from any increase in extreme weather events such as tropical and extra tropical storms that may occur as a result of changing weather patterns.

9. The way that a rise in sea level (as opposed to increased precipitation events) will cause periodic losses of coastal land due to flooding in the Boston area has to do with the relatively small difference between the elevations

of the 10-year, 100-year, and 500-year floodplains and the fact that any increase in mean sea level will add to the base elevation of any storm surge, thereby giving it more power to overtop both natural and man-made protection.

10. According to a report of the United States Army Corp of Engineers with which I am familiar, in the Boston area, there is only about a 0.3 meter (11.8 inch) difference in the storm surge elevation of a 10-year, 100-year, and 500-year flood. Thus, if sea level rises 0.3 meters (11.8 inches) – which is near the lower end of the likely range – that would mean the future 10-year flood surge elevation would be at the level of the current 100-year flood elevation and the future 100-year flood surge elevation would be at that of the current 500-year flood elevation. When such a rise in sea level occurs, a 10-year flood will have the magnitude of the present 100-year flood and a 100-year flood will have the magnitude of the present 500-year flood.

11. Based on this analysis, it is my opinion that when sea level rises 0.3 meters (11.8 inches) in the Boston area, we will experience the equivalent of what we now think of as a 100-year flood every 10 years. If the rise in sea level is even greater – which according to the IPCC and Dr. MacCracken is likely – than the Boston area will experience the equivalent of a 100-year storm on an even greater frequency than every 10 years. In fact, if the sea level rise is about 0.6 meters, the present 500-year flood will occur with a 10 year frequency.

12. To attempt to cost effectively protect portions of the Massachusetts coastline, there are measures that the Commonwealth could implement to attempt to prepare for the likely rise in sea level, such as construction of structures such as seawalls or groins and implementation of

beach nourishment or sand replenishment projects. Such projects would be quite costly.

I declare under penalty of perjury that the foregoing is true and correct.

Executed in Medford, Massachusetts, on June 15, 2004.

/s/ Paul H. Kirshen
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In The Supreme Court of the United States

COMMONWEALTH OF MASSACHUSETTS, *et al.*,

Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,

Respondent.

On Writ Of Certiorari To The United States Court Of Appeals For The District Of Columbia Circuit

BRIEF OF FORMER EPA ADMINISTRATORS CAROL M. BROWNER, WILLIAM K. REILLY, DOUGLAS M. COSTLE AND RUSSELL E. TRAIN AS *AMICI CURIAE* IN SUPPORT OF PETITIONERS

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Ethyl Corp. v. EPA, 541 F.2d 1 (D.C. Cir. 1976) ..... *passim*

Industrial Union Dep't, AFL-CIO v. American Petroleum Inst., 448 U.S. 607 (1980) 17

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Union Elec. Co. v. EPA, 427 U.S. 246 (1976) 3, 4

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Pub. L. No. 91-604, § 4(a), 84 Stat. 1676 (1970) 17
Pub. L. No. 95-95 § 401, 91 Stat. 685 (1977) 13

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36 Fed. Reg. 8186 (April 30, 1971) 23, 26
37 Fed. Reg. 3882 (Feb. 7, 1972) 10
38 Fed. Reg. 1254 (Jan. 10, 1973) 10
38 Fed. Reg. 1258 (Jan. 10, 1973) 10
38 Fed. Reg. 33,734 (Dec. 6, 1973) 10, 11, 12
42 Fed. Reg. 22,516 (May 3, 1977) 17
42 Fed. Reg. 29,332 (June 8, 1977) 17, 18

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43 Fed. Reg. 5918 (Feb. 10, 1978) 16, 17

46 Fed. Reg. 1165 (Jan. 5, 1981) 18

50 Fed. Reg. 9386 (Mar. 7, 1985) 15

52 Fed. Reg. 24,634 (July 1, 1987) 24

54 Fed. Reg. 38,044 (Sept. 14, 1989) 18

55 Fed. Reg. 8292 (Mar. 7, 1990) 18

58 Fed. Reg. 15,014 (Mar. 18, 1993) 21, 22

58 Fed. Reg. 65,018 (Dec. 10, 1993) 22

61 Fed. Reg. 65,638 (Dec. 13, 1996) 24, 25

62 Fed. Reg. 38,652 (July 18, 1997) 23, 25, 26

65 Fed. Reg. 48,058 (Aug. 4, 2000) 19

68 Fed. Reg. 52,922 (Sept. 8, 2003) 29

LEGISLATIVE HISTORY

S. Rep. No. 91-1196 (1970) 4

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Air Pollution – 1966, Hearings on S.3112 and S.3400 Before a Subcomm. on Air and Water Pollution of the Comm. on Public Works, 89th Cong., 2nd Sess. (1966) 9

OTHER AUTHORITIES

Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Lead, Draft for Public Comment* (Sept. 2005), available at http://www.atsdr.cdc.gov/toxprofiles/tp13.html 8, 9, 15

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David Rosner & Gerald Markowitz, *A 'Gift of God'?: The Public Health Controversy over Leaded Gasoline during the 1920s*, 75 Am. J. Pub. Health 344 (1985) 9

EPA, *Air Quality Criteria for Particulate Matter*, Vol. II, Ch. 8, p. 88 (March 2001) 25

EPA, *The Benefits and Costs of the Clean Air Act: 1970 to 1990* (Oct. 15, 1997), available at http://www.epa.gov/oar/sect812 6

EPA, *Health and Environmental Effects of Particulate Matter* (July 17, 1997), available at http://www.epa.gov/ttn/oarpg/naaqsfin/pmhealth.html 26

EPA, *Human Health Benefits of Stratospheric Ozone Protection* (April 2006), available at http://www.epa.gov/ozone/science 20

EPA, *The Particulate Pollution Report: Current Understanding of Air Quality and Emissions Through 2003* (Dec. 2004), available at http://www.epa.gov/airtrends/aqtrnd04/pm.html 26

EPA, *Technology Transfer Network Air Toxics Website, Lead Compounds*, available at http://www.epa.gov/ttn/ atw/hlthef/lead.html 8

Frank Ackerman and Lisa Heinzerling, *Priceless: On Knowing the Price of Everything and the Value of Nothing* (2004) 6

Gerald Markowitz & David Rosner, *"Cater to the Children": The Role of the Lead Industry in a Public Health Tragedy*, 1900-1955, 90 Am. J. Pub. Health 36 (2000) 9

TABLE OF AUTHORITIES – Continued

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Library of Congress, Congressional Research Service, *Stratospheric Ozone Depletion: Regulatory Issues (Nov. 1996)*, available at http://www.ncseonline.org/nle/crsreports/stratospheric/strat-1.cfmm 21

Ozone Layer Healing, But More Slowly Than Hoped, Wash. Post, Aug. 19, 2006 23

Richard Elliot Benedick, *Ozone Diplomacy: New Directions in Safeguarding the Planet* (1998 ed.) 21

Robert V. Percival, *Who's Afraid of the Precautionary Principle?*, 23 Pace Envtl. L. Rev. 21 (Winter 2005-06) 9

INTERESTS OF *AMICI CURIAE*

Amici[1] are four former Administrators of the United States Environmental Protection Agency ("Agency" or "EPA") whose service collectively spanned roughly 20 years of the Agency's 36-year history. Each *Amici* has faced decisions whether to regulate particular air pollutants and pollution sources under the Clean Air Act and each has an interest in ensuring that such decisions are based on careful consideration of the best available scientific evidence, do not stray from the statutorily required factors, and are protective of the public health and welfare. *Amici* also have an interest in ensuring that EPA continues to use its broad authority under the Clean Air Act to address new pollution problems as they emerge, even if some scientific uncertainties remain. Most immediately, *Amici* have grave concerns about the consequences of global climate change – the most significant public health and environmental threat facing EPA, the nation, and the world.

SUMMARY OF THE ARGUMENT

The Clean Air Act, like many other environmental statutes, requires EPA to regulate certain pollutants and pollution sources identified by Congress, as well as additional pollutants and sources not specified in the statute.

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[1] *Amici* are former EPA Administrators Carol M. Browner (January 1993 to January 2001), William K. Reilly (February 1989 to January 1993), Douglas M. Costle (March 1977 to January 1981), and Russell E. Train (September 1973 to January 1977). All parties have consented to the filing of this brief in letters that are on file with the Clerk. Pursuant to S. Ct. R. 37.6, counsel for *Amici* state that no counsel for a party authored this brief in whole or in part and no person or entity, other than *Amici* or their counsel, made a monetary contribution to the preparation or submission of this brief.

Recognizing the need for an expert agency to identify, investigate and, where appropriate, regulate air pollution based on new and changing scientific information, Congress directed EPA to assess (and reassess when necessary) the evolving state of such information. Based on the best available science, the Clean Air Act requires EPA to identify, and thereafter regulate, those substances that it determines are reasonably anticipated to endanger public health or welfare.

Scientific knowledge is not static; it changes over time in response to new data and analysis. In order to fulfill its statutory obligations under the Clean Air Act, EPA historically has found it necessary and appropriate to utilize new or emerging scientific information in its decisionmaking process, even in the face of some continued scientific debate and uncertainty. Indeed, postponing action until there is unanimous scientific consensus effectively would preclude EPA from ever acting to protect the public health because there can never be absolute scientific certainty.

Each of *Amici* has observed first-hand rapid changes in scientific knowledge concerning the dangers posed by particular pollutants. For instance, emerging scientific data warranted immediate regulation of neurotoxic lead additives in gasoline, carcinogenic emissions of airborne benzene, ozone-depleting chlorofluorocarbons, and lung function-altering fine particulate matter. In discharging their obligation to protect the public health and welfare in the face of these threats, *Amici* found essential their Clean Air Act authority to take regulatory actions not specifically mandated or contemplated by Congress based on developing scientific information, even in the face of some remaining scientific debate.

EPA's decision not to regulate greenhouse gases based on non-science related policy considerations and residual

scientific uncertainty undermines the bedrock principles that have guided the Agency's implementation of the Clean Air Act for more than three decades. Congress has already made the policy decision to regulate dangerous pollutants and has charged EPA with the role of applying its considerable technical expertise to the scientific question of whether a particular pollutant may endanger public health or welfare. The Agency is not empowered to subordinate science-based regulatory decisionmaking to non-statutory policy considerations and thereby avoid entirely the necessary regulatory decision. Such considerations come into play, when authorized by the law, only in the Agency's choice of implementation tools to address the underlying environmental threat.

ARGUMENT

I. THE CLEAN AIR ACT REQUIRES TIMELY REGULATION OF AIR POLLUTANTS NOT SPECIFICALLY ENUMERATED IN THE STATUTE BASED ON THE BEST AVAILABLE SCIENCE.

The Clean Air Act Amendments of 1970 addressed the serious, growing, and then-unchecked problem of air pollution.[2] The primary purpose of the Act is prophylactic: "to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare

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[2] *See Union Elec. Co. v. EPA*, 427 U.S. 246, 256 (1976) ("[T]he 1970 Amendments to the Clean Air Act were a drastic remedy to what was perceived as a serious and otherwise uncheckable problem of air pollution."); *Train v. Natural Resources Defense Council*, 421 U.S. 60, 64 (1975) (disappointed with the failure of states to control air pollution and improve air quality, "Congress reacted by taking a stick to the States in the form of the Clean Air Amendments of 1970.").

and the productive capacity of its population." 42 U.S.C. § 7401(b)(1).[3] Because Congress recognized that little was known about air pollution when the Act was passed, it directed EPA to evaluate the available scientific evidence, and collect additional data where necessary, to determine which pollutants and pollution sources are likely to endanger public health or welfare. Based on these "endangerment" findings, EPA is then obligated to act preventively to minimize the risk of harm to humans and the environment.[4] Congress also recognized that early regulation served another salutary purpose, acting as a catalyst for the development of new pollution-reducing technologies.[5]

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[3] *See also American Lung Ass'n v. EPA*, 134 F.3d 388, 389 (D.C. Cir. 1998) (Clean Air Act was "[d]riven by [Congress'] deep concern for protection of the health of the American people"); *Lead Industries Ass'n, Inc. v. EPA*, 647 F.2d 1130, 1148 (D.C. Cir.), *cert. den.*, 449 U.S. 1042 (1980) (Clean Air Act embodies a "deliberate decision by Congress to subordinate [economic and technical feasibility] concerns to the achievement of health goals"); S. Rep. No. 91-1196, at 2-3 (1970) ("The Committee determined that . . . the health of people is more important than the question of whether the early achievement of ambient air quality standards protective of health is technically feasible.").

[4] *See, e.g., American Lung Ass'n v. EPA*, 134 F.3d at 389; *Lead Industries Ass'n, Inc. v. EPA*, 647 F.2d at 1155; *Ethyl Corp. v. EPA*, 541 F.2d 1, 13, 15, 17 (D.C. Cir.), *cert. den.*, 426 U.S. 941 (1976); H.R. Rep. No. 95-294, at 49 (1977) (statement in House Report accompanying 1977 amendments to the Clean Air Act that one of the legislation's purposes is "(t)o emphasize the preventive or precautionary nature of the act, i.e., to assure that regulatory action can effectively prevent harm before it occurs; to emphasize the predominant value of protection of public health").

[5] *See Union Elec. Co. v. EPA*, 427 U.S. at 269 ("Technology forcing is a concept somewhat new to our national experience and it necessarily entails certain risks. But Congress considered those risks in passing the 1970 Amendments and decided that the dangers posed by uncontrolled air pollution made them worth taking."); *American Petroleum Inst. v. Costle*, 665 F.2d 1176, 1185 (D.C. Cir. 1981), *cert. den.*, 455 U.S. 1034 (1982) (reiterating that "the 'technology-forcing' requirements of the Act were expressly designed to force regulated sources to develop pollution

(Continued on following page)

To achieve its objectives, the Clean Air Act provides EPA with the necessary tools to address new pollution problems as they arise or become recognized. Rather than attempting to specify each particular pollutant or pollution source that EPA must regulate, which would require frequent statutory amendments to permit regulation of new threats, Congress broadly defined the term "air pollutant"[6] under the Act and directed the Agency to use scientific evidence to identify those pollutants and emission sources that may "endanger public health or welfare." *See, e.g.*, 42 U.S.C. §§ 7521(a)(1) (motor vehicle emissions), 7545(c) (fuel additives), 7547(a) (nonroad vehicles), 7408(a)(1) (criteria air pollutants).[7]

The statute's emphasis on science-based determinations has reaped enormous benefits, such as reduced incidence of adverse human health effects, improved visibility, and reduced damages to agricultural crops. In a far-reaching, peer-reviewed 1997 study of the Clean Air Act's costs and benefits, EPA concluded that implementation of the statute had produced direct benefits of between $5.6 and $49.4 trillion, in 1990 dollars, with a mean estimate of $22.2 trillion, while the direct costs to the

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control devices that might at the time appear to be economically or technologically infeasible"); *Ethyl Corp. v. EPA*, 541 F.2d at 14 (noting the "technology forcing" nature of the statute and Congress' reliance on "health-based standards" to achieve the requisite control).

[6] Air pollutant is defined as "any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive (including source material, special nuclear material, and byproduct material) substance or matter which is emitted into or otherwise enters ambient air." 42 U.S.C. § 7602(g).

[7] In those cases where Congress specified the regulation of particular pollutants, it nonetheless gave EPA authority to regulate additional pollutants that endanger human health or the environment. *See, e.g.*, 42 U.S.C. § 7412(b)(2).

public and private sectors of implementing the statute were estimated at $523 billion. Thus, for the period from 1970 to 1990, the benefits of the Clean Air Act exceeded its costs by more than 42 times. Without the Clean Air Act, 60 metropolitan areas in the U.S. would have had worse air quality in 1990 – in terms of total suspended particulates – than Moscow, Russia.[8]

Section 202(a)(1), the provision at issue in this case, plainly embodies the science-based, preventive approach that has played such a critical role in the Clean Air Act's success. It directs that the Administrator "shall by regulation prescribe . . . standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicles engines, *which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.*" 42 U.S.C. § 7521(a)(1) (emphasis added). Thus, the only criterion in taking the initial step toward regulation is scientific: is the pollutant reasonably anticipated to endanger public health or welfare? This statutory formulation reflects congressional appreciation of EPA's expert role in the evaluation and interpretation of scientific evidence. Once a health-based endangerment determination is made, the Administrator then is directed to prescribe implementing regulations as

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[8] *See* EPA, *The Benefits and Costs of the Clean Air Act: 1970 to 1990*, at 55-58 (Oct. 15, 1997), available at http://www.epa.gov/oar/sect812 (visited Aug. 29, 2006). In fact, actual benefits are likely to be even greater. For instance, the study's monetized calculations did not include the subjective value that individuals may place on the many benefits of the Clean Air Act's regulatory programs, such as 184,000 lives not cut short by exposure to particulate matter or ten million IQ points not lost due to lead poisoning between 1970 and 1990. *See id.* at 37-38, 43-50; Frank Ackerman and Lisa Heinzerling, *Priceless: On Knowing the Price of Everything and the Value of Nothing* 102-104 (2004).

"necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance." *Id.* § 7521(a)(2).

II. *AMICI* HAVE EACH USED THEIR AUTHORITY UNDER THE CLEAN AIR ACT TO PROTECT THE PUBLIC FROM NEW POLLUTANTS AND EMERGING HEALTH THREATS.

During their 20 years of service as EPA Administrators, *Amici* observed three essential guiding principles in administering the Clean Air Act:

(1) The Act confers broad authority on EPA to regulate pollutants and pollutant sources not specifically enumerated in the statute;

(2) EPA's decision whether to regulate specific pollutants and pollutant sources must be based on the best available scientific evidence concerning the likely impact on human health and welfare; and

(3) Given the unacceptably high health and environmental costs of waiting for perfect information, absolute scientific certainty concerning all aspects of a pollutant's impacts is not a necessary prerequisite to regulation.

The four major Clean Air Act regulatory decisions described below exemplify how adherence to these fundamental principles has meaningfully informed EPA's judgment over the last 30 years.

A. The Regulatory Phase-Out Of Lead Additives In Gasoline.

One of the most remarkable regulatory success stories began during the Clean Air Act's earliest days under Administrator Russell Train, when EPA took on the

serious public health threat posed by lead emissions from motor vehicles. In the face of some scientific uncertainty and over the strong objections of industry, the Administrator nevertheless acted under his new statutory authority to protect the health of urban populations, particularly vulnerable young children, from the potentially devastating effects of airborne lead. In doing so, he set a course for future regulatory decisionmaking under the Clean Air Act that was later ratified by Congress and has since proven critical to fulfilling the statute's public health mission.

Human exposure to elemental lead, which performs no useful function in the body, can have life-altering consequences. Absorbed through either inhalation or ingestion, lead's damage is cumulative. Chronic exposure to low levels can adversely affect blood pressure, kidney function, and the central nervous system, particularly in children, who can suffer impaired cognitive development and functioning, reduced growth, altered behavior and fine motor function, and permanent neurological damage. At higher levels of exposure, lead can cause low sperm count, spontaneous abortions, low fetal birth weight, and slowed post-natal neurobehavioral development, as well as kidney damage, brain damage, and even death by lead poisoning.[9]

Ambient lead levels increased rapidly in the wake of industrialization. The early twentieth century witnessed the most dramatic rise, in large part as a result of General Motor's discovery in 1921 that tetraethyl lead could enhance

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[9] *See generally* EPA, *Technology Transfer Network Air Toxics Website, Lead Compounds*, available at http://www.epa.gov/ttn/atw/hlthef/lead.html (visited on Aug. 29, 2006); Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Lead, Draft for Public Comment* (Sept. 2005) (hereinafter "*ATSDR Lead Profile*"), available at http://www.atsdr.cdc.gov/toxprofiles/tp13.html (visited Aug. 29, 2006).

gasoline combustion and avoid engine "knock." General Motors soon joined forces with Standard Oil of New Jersey to form the Ethyl Corporation for the purpose of marketing this new lead additive for gasoline, which quickly became the industry standard.[10] By the 1970's, the combustion of leaded gasoline was responsible for roughly 90 percent of anthropogenic lead emissions to the atmosphere. *Ethyl Corp. v. EPA*, 541 F.2d at 8; *ATSDR Lead Profile* at 277.

The question facing public health officials was whether this airborne lead was a significant contributing source of observed elevated human lead levels. For decades the automotive and lead additive industries denied the existence of any health effects from their products, claiming that human exposure resulted primarily from ingestion of leaded paint and from industrial facilities.[11] Although concern about the neurological effects of lead exposure on children continued to mount,[12] uncertainty about the source of such exposure remained. For instance, in 1966 Senate hearings on the issue, Ethyl Corporation representatives and university scientists presented conflicting testimony on the causal relationship between airborne lead and elevated lead levels in human populations. *See Air Pollution – 1966, Hearings on S.3112 and S.3400 Before a Subcomm. on Air and Water*

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[10] *See generally* David Rosner & Gerald Markowitz, *A 'Gift of God'?: The Public Health Controversy over Leaded Gasoline during the 1920s*, 75 Am. J. Pub. Health 344 (1985).

[11] *See* Robert V. Percival, *Who's Afraid of the Precautionary Principle?*, 23 Pace Envtl. L. Rev. 21 (Winter 2005-06) and sources cited therein for a more detailed explanation of the industry's arguments.

[12] *See* Gerald Markowitz & David Rosner, *"Cater to the Children": The Role of the Lead Industry in a Public Health Tragedy, 1900-1955*, 90 Am. J. Pub. Health 36, 44 (2000).

Pollution of the Comm. on Public Works, 89th Cong., 2nd Sess. (1966).

Passage of the Clean Air Act Amendments in 1970 provided the newly-formed EPA with the tools required to confront airborne lead, although the statute nowhere specifically addressed this pollutant. In addition to directing specific reductions in particular motor vehicle pollutants under section 202(b)(1)(A), Congress also authorized EPA to control or reduce any fuel additive whose emission products "will endanger the public health or welfare" under section 211(c)(1)(A). Pub. L. No. 91-604, § 9(a), 84 Stat. 1676, 1698 (1970). Shortly after adoption of the legislation, EPA began evaluating controls on leaded gasoline. *See* 36 Fed. Reg. 1486 (Jan. 30, 1971).[13] Over the next two years, the Agency twice proposed a schedule to reduce the maximum amount of lead allowed in gasoline pursuant to its "endangerment" authority in section 211(c)(1)(A), over the vigorous objections of industry. 37 Fed. Reg. 3882 (Feb. 7, 1972); 38 Fed. Reg. 1258 (Jan. 10, 1973).[14]

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[13] EPA was concerned about two distinct problems: (1) the incompatibility of lead with catalytic converter emission control systems that industry had developed to address other air pollution from motor vehicle engines and (2) the human health effects of ubiquitous lead exposure. *Ethyl Corp. v. EPA*, 541 F.2d at 9-10. The Agency ultimately addressed these disparate concerns in two different rulemakings.

[14] Concurrent with this proposal, EPA adopted final regulations mandating the availability of lead-free gasoline for cars with catalytic converters, pursuant to section 211(c)(1)(B), in order to address concerns about lead fouling of these emission systems. 38 Fed. Reg. 1254 (Jan. 10, 1973). In the subsequent adoption of separate regulations for lead additive content pursuant to its separate section 211(c)(1)(A) "endangerment" authority, the Agency recognized that "based on public health consideration, it was considered necessary to propose a reduction in the lead content of leaded gasoline as well." 38 Fed. Reg. 33,734 (Dec. 6, 1973).

Despite the continuing controversy and the incompletely settled science, Administrator Train acted swiftly after his appointment to adopt final health-based standards designed to reduce lead levels in gasoline by 60-65 percent over the next five years. 38 Fed. Reg. 33,734, 33,734-41 (Dec. 6, 1973). This regulation embodied two important principles that have continued to undergird EPA's Clean Air Act regulatory decisions over the subsequent decades. First, the Administrator used his broad statutory authority and public health mandate to regulate a pollutant that he believed posed substantial danger to the public, even without any specific statutory direction to do so. Second, the decision to regulate was based on the best available science – and only the science – notwithstanding lingering questions about the correlation between airborne lead and elevated lead levels in human populations. *See id.* at 33,735-37.

Of particular note is EPA's approach to the question of scientific uncertainty – and the courts' and Congress' subsequent embrace of that approach. In response to industry comments on the proposed rule, EPA acknowledged the existence of other, potentially significant sources of environmental lead (lead paint, smelters, etc.) and the less-than-definitive conclusions in the scientific literature on the role of airborne lead in human exposure. 38 Fed. Reg. at 33,735-37. Yet the Administrator did not await the final scientific resolution of these issues before acting. He believed he was empowered, required even, to implement the statute's overarching public health directive and endangerment standards by regulating lead.

No one challenged EPA's broad authority to regulate new pollutants under section 211(c)(1)(A), but industry argued strenuously that EPA had failed to show "consistently strong correlations" between air lead levels and blood lead levels, 38

Fed. Reg. at 33,734, and ultimately filed suit challenging the new rule. It argued that the "will endanger" language of section 211 required proof of actual harm rather than simply "a significant risk of harm." *See Ethyl Corp. v. EPA*, 541 F.2d at 12. The D.C. Circuit Court of Appeals rejected industry's contention, reasoning by analogy to the Eighth Circuit's interpretation of a similar provision under the Clean Water Act in *Reserve Mining Co. v. EPA*, 514 F.2d 492 (8th Cir. 1975), and holding that the very structure of the Clean Air Act "would seem to *demand* that regulatory action precede, and, optimally, prevent, the perceived threat." *Id.* at 13, 17 (emphasis in original). The court explained why the harm at issue need not be inevitable and why its full extent need not be understood in all the particulars:

> Questions involving the environment are particularly prone to uncertainty. Technological man has altered his world in ways never before experienced or anticipated. The health effects of such alterations are often unknown, sometimes unknowable. While a concerned Congress has passed legislation providing for protection of the public health against gross environmental modifications, the regulators entrusted with the enforcement of such laws have not thereby been endowed with a prescience that removes all doubt from their decisionmaking. . . . Sometimes, of course, relatively certain proof of danger or harm from such modifications can be readily found. But, more commonly, "reasonable medical concerns" and theory long precede certainty. Yet the statutes and common sense demand regulatory action to prevent harm, even if the regulator is less than certain that harm is otherwise inevitable.

Ethyl Corp. v. EPA, 541 F.2d at 24-25 (internal citations omitted). This conclusion, the *en banc* majority noted,[15] "follows not only from the language of Section 211(c)(1)(A) and its legislative history, but from the nature of the Administrator's charge: to protect the public from danger." *Id.* at 24.[16]

The *Ethyl Corp.* decision is significant for another reason. In it, the court held that the Clean Air Act does not allow EPA to make (or fail to make) endangerment determinations based on policy considerations unrelated to public health and welfare: "Congress [has not] left the Administrator free to set policy on his own terms. To the contrary, the policy guidelines are largely set, both in the statutory term 'will endanger' and in the relationship of that term to other section of the Clean Air Act." *Id.* at 29.

In amending the Clean Air Act in 1977, Congress explicitly endorsed *Ethyl Corp's* reasoning. Prior to 1977, sections 202(a)(1) and 211(c)(1) required EPA to regulate pollution that "will endanger" public health or welfare. In 1977, Congress amended these provisions to require EPA to regulate pollutants that "*may reasonably be anticipated to endanger* public health or welfare." 42 U.S.C. §§ 7521(a)(1) and 7545(c)(1) (emphasis added) (amended by Pub. L. No. 95-95 § 401, 91 Stat. 685, 791 (1977)). The drafters of this provision specifically noted their intent to

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[15] The *en banc* decision reversed a prior three-judge panel decision which, by a 2 to 1 vote, had invalidated the rule, in part on the grounds that the Administrator "must find that the lead from auto emissions by itself or alone contributes a measurable increment of lead to the human body, and that this measurable increment causes a significant health hazard." *Ethyl Corp. u. EPA*, No. 73-2205, slip op. at 8 (D.C. Cir. Jan. 28, 1975).

[16] The logic of *Ethyl Corp.* is directly relevant here because, as the court noted, the "threshold determination" of endangerment under section 211 is identical to the threshold endangerment determination under section 202. 541 F.2d at 16.

"support the views expressed" in *Ethyl Corp*. H.R. Rep. No. 95-294, at 49 (1977). In particular, the amendment was intended "to emphasize the predominant value of protection of public health," and "the Administrator's duty to assess risks rather than wait for proof of actual harm." *Id.* at 49, 51. The statutory changes reflected congressional "awareness of the uncertainties and limitations in the data which will be available to the Administrator in the foreseeable future to enable him to execute his rulemaking duties under this act." *Id.* at 50. Thus, section 202(a)(1) was rewritten explicitly to endorse the approach that Administrator Train followed in the lead additive rulemaking.[17]

The epilogue to the lead additive rulemaking story is both telling and heartening. As lead in gasoline declined between 1976 and 1980, a comprehensive study by the Centers for Disease Control ("CDC") showed that mean blood lead levels declined "in virtual lockstep" with this phase-down, leading the D.C. Circuit Court of Appeals to conclude in 1983 that "[g]asoline lead correlates strongly with blood lead levels." *Small Refiner Lead Phase-Down Task Force v. U.S.E.P.A.*, 705 F.2d 506, 527-28 (D.C. Cir. 1983) (including graph of the study results). Other studies showed that when leaded gasoline use peaked sharply each summer, blood lead levels peaked sharply in parallel, likewise confirming the correlation between the two. *Id.* at 528. Most gratifying, the percentage of very young children (six months to five years in age) with clinical lead poisoning also dropped precipitously during the four-year study period, highlighting the regulations' tangible effects

[17] The House Report on the bill noted that the same basic formula – "may reasonably be anticipated to endanger" – was deliberately written into several different sections of the statute, including sections 108, 111, 112, 202, 211, and 231. H.R. Rep. No. 95-294, at 50.

on the most vulnerable members of our society. *Id.* at 529. As one CDC official summarized, "as we have removed lead from gasoline, we have also removed lead from ourselves and our children." *Id.* at 527-28.

In fulfilling its statutory responsibilities to address preventively new threats as they arise, EPA also furthered the nation's scientific understanding of a public health crisis and its solutions. The epidemiological evidence that accumulated after the initial phase-down of lead additives prompted EPA to adopt a further phase-down, *see* 50 Fed. Reg. 9386 (Mar. 7, 1985), and ultimately spurred Congress to ban leaded gasoline altogether in the 1990 amendments to the Clean Air Act. 42 U.S.C. § 7545(n) (prohibiting the sale of leaded gasoline after December 31, 1995). As a result, ambient airborne lead concentrations in the United States declined by 97 percent between the beginning of the phase-down in 1976 and the full phase-out in 1995, *ATSDR Lead Profile* at 302, and over roughly the same period, mean blood lead levels across the nation dropped by almost 80 percent. *ATSDR Lead Profile* at 326.

B. The Listing Of Benzene As A Hazardous Air Pollutant.

This same preventive, science-based approach to regulatory decisionmaking was carried forward by the next EPA Administrator. Shortly after his appointment in 1977, Administrator Douglas Costle took the first, critical step in regulating environmental exposure to benzene by listing the chemical as a "hazardous air pollutant" under the Clean Air Act. The Administrator's decision was based exclusively on the emerging scientific evidence that benzene may be a human carcinogen, at least at higher exposure levels. Unsurprisingly, this action was opposed by industry. But the

listing decision set the stage for further study and analysis of both stationary and mobile sources of ambient benzene and was the first necessary step in the development of the benzene standards that exist today.

Benzene is a volatile organic compound used in the manufacture of such items as detergents, pesticides, solvents, and paint removers and also is a constituent of gasoline. It first came into significant industrial use as a solvent in the rubber industry just prior to World War I. 43 Fed. Reg. 5918 (Feb. 10, 1978). Greatly increased quantities of benzene were produced during the war, resulting in more widespread use of the compound in the decades that followed. *Id.* By the mid-1970's, annual U.S. production of benzene was 11 billion pounds and "rapidly expanding." *Id.*

The noncarcinogenic health effects of inhaled benzene, including a variety of blood disorders, have been recognized since 1900. *See* 43 Fed. Reg. 5920-25. Various other studies have linked benzene to chromosomal abnormalities and leukemia, a cancer of the white blood cells, since at least the 1930's. *Id.* at 5925-33. This Court summarized the state of scientific knowledge in the mid-1970's:

> As early as 1928, some health experts theorized that there might also be a connection between benzene in the workplace and leukemia. In the late 1960's and early 1970's a number of epidemiological studies were published indicating that workers exposed to high concentrations of benzene were subject to significantly increased risk of leukemia. In a 1974 report recommending a permanent standard for benzene, the National Institute for Occupational Safety and Health (NIOSH), OSHA's research arm, noted that these studies raised the "distinct possibility" that benzene caused leukemia. . . . NIOSH suggested that further studies were necessary to determine conclusively whether

> there was a link between benzene and leukemia and, if so, what exposure levels were dangerous.

Industrial Union Dep't, AFL-CIO v. American Petroleum Inst., 448 U.S. 607, 618 (1980) (citations omitted).

New studies published between 1974 and 1976 continued to suggest a possible causal link between leukemia and high (workplace) levels of benzene exposure. *Id.* In response to these studies, the Occupational Safety and Health Administration ("OSHA") established an emergency temporary workplace standard for benzene in 1977. 42 Fed. Reg. 22,516, 22,517 (May 3, 1977). In promulgating a permanent occupational exposure standard for benzene the following year, the Secretary of Labor recognized that, even with respect to acute workplace exposure, the health effects and epidemiological studies left some scientific questions unanswered. *See, e.g.*, 43 Fed. Reg. at 5929.

Nevertheless, EPA Administrator Costle stepped forward to protect the broader public's health under his Clean Air Act authority. Just over a month after issuance of OSHA's emergency occupational exposure standard, EPA formally listed benzene as a "hazardous air pollutant" under then-section 112(b)(1)(A) of the Act. 42 Fed. Reg. 29,332 (June 8, 1977). When this listing was made, the language of section 112 was similar to the language of section 202(a)(1), with the endangerment-type criteria for determining which pollutants to regulate embedded in the definition of a "hazardous air pollutant" as "an air pollutant to which no ambient air quality standard is applicable and which in the judgment of the Administrator may cause, or contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness." Pub. L. 91-604, § 4(a), 84 Stat. 1676, 1685 (1970).

Based on OSHA's scientific data and analysis, Administrator Costle determined that benzene met the health-based criteria of section 112, even though virtually all of the studies involved acute workplace exposure, not more diffuse ambient exposure. EPA acknowledged that "ambient air exposures are at levels substantially lower than those to which affected workers were exposed." 42 Fed. Reg. at 29,332. But noting that 260 million pounds of benzene were emitted to the air in the United States every year, the Administrator concluded that he had the authority to make an endangerment finding because "there is *reason to believe* that ambient exposures *may* constitute a cancer risk and should be reduced." *Id.* (emphasis added).

EPA plainly saw its decision to regulate as a two-step process. First, the Agency made its endangerment-type finding based on the best available science. The second and later step was the issuance of implementing regulations to control various benzene sources. *Id.* at 29,333 (inviting public comment and initiating a "careful evaluation" of available control technologies and associated risks). EPA was under no illusions that this second step would be easy, alluding in the listing decision to its past difficulties in developing control technologies for the previously listed hazardous air pollutant vinyl chloride. *Id.* That prescient concern,[18] however, did not impede the

[18] In 1981, after an evaluation of benzene risks, EPA proposed regulations for fugitive emission sources in the petroleum refining and chemical manufacturing industries. 46 Fed. Reg. 1165 (Jan. 5, 1981). Following protracted litigation over the hazardous air pollutant program, a final benzene emissions rule for storage units at coke by-product recovery plants was finally promulgated in 1989. 54 Fed. Reg. 38,044 (Sept. 14, 1989). Six months later, EPA issued final rules for benzene waste and benzene transfer operations. 55 Fed. Reg. 8292 (Mar. 7, 1990).

Administrator from meeting his statutory obligations to regulate benzene, even in the face of uncertainty about the health risks associated with environmental exposure.

EPA's public health-protective approach has proven far-sighted. In the 1990 Clean Air Act Amendments, Congress revised section 112 to designate a specific list of hazardous air pollutants, including benzene. 42 U.S.C. § 7412(b). At the same time, Congress provided EPA with new direction to study mobile source-related air toxics and to promulgate regulations to control hazardous air pollutants from motor vehicles. 42 U.S.C. § 7521(l)(1)-(2). Benzene has become one of the primary foci of this new program, in part due to its toxicity and in part because it makes up roughly 70 percent of gaseous toxics from these sources. *See* 65 Fed. Reg. 48,058, 48,077 (Aug. 4, 2000). Had Administrator Costle failed to fulfill his statutory responsibility to regulate benzene due to its potential health impacts, EPA could not have moved forward with its slow-but-steady progress in protecting the public from this carcinogen.

C. EPA's Acceleration Of The Phase-Out Of Certain Ozone-Depleting Substances.

Administrator William Reilly's aggressive action to accelerate the phase-out for certain ozone-depleting substances provides yet another example of how EPA has successfully fulfilled its Clean Air Act responsibility to address rapidly developing scientific data about a potential public health disaster. The story of the Administrator's action on ozone depletion is especially salient here because it illustrates how the Agency has utilized its public health mandate under the Clean Air Act to tackle a global pollution problem by providing international leadership.

Stratospheric ozone protects the biosphere from potentially damaging doses of ultraviolet ("UV") radiation, which can induce a variety of serious health effects, primarily to the skin, eyes and immune system. Skin effects include sunburn, aging of the skin and various forms of skin cancer including melanoma, the deadliest form of skin cancer that causes more than 7,000 deaths annually in the United States. UV radiation also causes cataracts and cancer of the cornea. Sunlight exposure reduces immunological defenses, impeding resistance to infectious diseases and skin tumors and diminishing the effectiveness of vaccines. In addition to its adverse health impacts, UV exposure can also damage ecological and agricultural systems by, for example, abetting the formation of photochemical smog, lowering the immunity of vegetation to pest infestation, and disrupting nutrient cycles and killing fish.[19]

In 1974, two scientists from the University of California published a paper in which they hypothesized that the ozone layer could be threatened with destruction from a family of chemicals known as chlorofluorocarbons ("CFCs"). These chemicals were used in numerous industrial applications including aerosol propellants, foam blowing, air conditioning and solvents, and were particularly attractive because they had been thought to pose insignificant environmental risks. In 1985, spurred by the 1974 paper, two British scientists studying springtime ozone levels in the stratosphere over Antarctica published startling new findings: Seasonal ozone loss had sharply accelerated to the point where a "hole" of significantly

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[19] *See generally* EPA, *Human Health Benefits of Stratospheric Ozone Protection* (April 2006), available at http://www.epa.gov/ozone/science (visited Aug. 29, 2006).

decreased ozone levels in the stratosphere had grown to cover an area the size of the United States. By 1987, the international community had negotiated the Montreal Protocol, which required all signatories to freeze and then reduce the production and consumption of a specific set of ozone-depleting substances.[20]

The ink had barely dried on the Montreal Protocol when significant new scientific analyses indicated that stratospheric ozone depletion was occurring at a more rapid rate than previously believed. Studies indicated significant stratospheric ozone decreases in winter, and, for the first time, also in spring and summer in both the northern and southern hemispheres. There also was concern that a springtime ozone "hole" might now appear in the Arctic. *See* 58 Fed. Reg. 15,014, 15,015-16 (Mar. 18, 1993).

Responding directly to this new information, former President George H.W. Bush, at the recommendation of EPA Administrator Reilly, announced in February 1992 that the United States would take action to phase out production of certain ozone-depleting substances on a more expedited basis than the Montreal Protocol then mandated.[21] EPA immediately began work on a rulemaking to implement this announcement. Significantly, this rulemaking was undertaken in part pursuant to certain

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[20] *See generally* Richard Elliot Benedick, *Ozone Diplomacy: New Directions in Safeguarding the Planet* (1998 ed.).

[21] Although the Montreal Protocol was revised in 1990 to require a phase-out of ozone-depleting substances by 2000 (or in some cases by 2005), President Bush announced that the United States would require a complete phase-out by January 1, 1996. Library of Congress, Congressional Research Service, *Stratospheric Ozone Depletion: Regulatory Issues* (Nov. 1996), available at http://www.ncseonline.org/nle/crsreports/stratospheric/strat-1.cfmm (visited Aug. 29, 2006).

provisions of the 1990 Clean Air Act Amendments, which directed EPA to promulgate a more aggressive schedule than otherwise required for phasing out the production and consumption of certain ozone-depleting substances if, "based on an assessment of credible current scientific information ... regarding harmful effects on the stratospheric ozone layer associated with [such substances], the Administrator determines that such more stringent schedule may be necessary to protect human health and the environment against such effects." 42 U.S.C. § 7671e(a)(1).

EPA's efforts to implement President Bush's announced schedule culminated in Administrator Reilly's signing of a proposed rule in January 1993,[22] and the Agency promulgated a final rule later that year. 58 Fed. Reg. 65,018 (Dec. 10, 1993). Moreover, in the interim, the Montreal Protocol signatories met again in the fall of 1992 and agreed to amend the international treaty to adopt the more aggressive phase-out schedules that had been announced by the United States. *See id.* at 65,020-21.

Here again, the Agency's authority (and responsibility) to take regulatory action based on newly emerging and credible scientific evidence, despite some remaining uncertainties, proved to be a critical tool in fulfilling its mission to protect human health and the environment. EPA utilized its broad protective authority under the Clean Air Act to lead the world in addressing an air pollution problem of global consequence when the statutory "endangerment" criterion was satisfied.

The postscript to EPA's proactive efforts on ozone-depleting substances is also instructive. Within the past

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[22] The proposal was published two months later. 58 Fed. Reg. 15,014 (Mar. 18, 1993).

several weeks, the World Meteorological Organization and the United Nations Environment Program have reported that the Earth's ozone layer is on the mend and, while recovering more slowly than experts had originally hoped, should be fully recovered within the next sixty years.[23]

D. The Establishment Of New National Ambient Air Quality Standards For Particulate Matter.

EPA's three-decade struggle to protect the public from the hazards of particulate air pollution, culminating in the development during Administrator Carol Browner's tenure of a national standard for the most dangerous fine particulate matter, provides one last example of the Agency's use of its Clean Air Act regulatory responsibility to respond to emerging scientific information, without specific direction from Congress, and to do so based exclusively on the available science.

The Clean Air Act Amendments of 1970 did not specifically list particulate matter[24] as a pollutant for which a national ambient air quality standard ("NAAQS") was required. Based on the scientific evidence available at that time, however, EPA used its general authority under section 109 of the Act, 42 U.S.C. § 7409, to establish a NAAQS for total suspended particles, which included particles as large as 45 micrometers. *See* 36 Fed. Reg. 8186 (Apr. 30, 1971). Subsequent advances in

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[23] *Ozone Layer Healing, But More Slowly Than Hoped*, Wash. Post, Aug. 19, 2006, at A03.

[24] Particulate matter ("PM") is a complex mixture of small particles and liquid droplets made up of a number of components, including acids (such as nitrates and sulfates), organic compounds, metals, soil, and dust particles. It originates from a variety of anthropogenic stationary and mobile sources, as well as from natural sources. *See* 62 Fed. Reg. 38,652, 38,653 (July 18, 1997).

scientific knowledge revealed that smaller particles were the most dangerous to human health because they have the greatest potential to enter the lungs, potentially causing serious heart and lung problems. Accordingly, in 1987, EPA responded again by establishing a new NAAQS for particulate matter sized 10 micrometers or smaller ("PM_{10}"). *See* 52 Fed. Reg. 24,634 (July 1, 1987).

Subsequent epidemiological studies suggested the existence of "serious health effects (mortality, exacerbation of chronic disease, increased hospital admissions, etc.) associated with exposures to ambient levels of PM found in contemporary U.S. urban airsheds even at concentrations *below*" the 10 micrometer size. 61 Fed. Reg. 65,638, 65,641 (Dec. 13, 1996) (emphasis added). In particular, the science indicated that very fine particles – those 2.5 micrometers in size or smaller ("$PM_{2.5}$") – were more likely to penetrate deeply into the lungs and contribute significantly to adverse health effects, including premature mortality; aggravation of respiratory and cardiovascular disease, changes in lung function and increased respiratory symptoms, changes to lung tissues and structure, and altered respiratory defense mechanisms. *Id.* Sensitive subpopulations, such as those with respiratory and cardiovascular disease, the elderly, children, and asthmatic individuals, are at greatest risk. *Id.* at 65,644.

Responding to the science, EPA proposed a new NAAQS for $PM_{2.5}$ 61 Fed. Reg. at 65,649 (explaining the emergence of new epidemiological data on the impacts to sensitive subpopulations). Further regulatory action was imperative based on:

> (1) Health effects information, and alternative views on the appropriate interpretation and use of the information, as the basis for judgments about the risks to public health presented by population exposures to ambient PM; (2) insights gained from

> a quantitative risk assessment conducted to provide a broader perspective for judgments about protecting public health from the risks associated with PM exposures; and (3) specific conclusions regarding the need for revisions to the current standards and the elements of PM standards (i.e., indicator, averaging time, form, and level) that, taken together, would be appropriate to protect public health with an adequate margin of safety.

Id. at 65,641.

At the same time, however, Administrator Browner explicitly acknowledged, in the preamble to the final rule, the existence of residual uncertainty about the causal connection between $PM_{2.5}$ in ambient air and adverse impacts to public health:

> As with virtually any policy-relevant scientific research, there is uncertainty in the characterization of health effects attributable to exposure to ambient PM. . . . While significant uncertainties exist, the review of the health effects information has been thorough and deliberate. In the judgment of the Administrator, this intensive evaluation of the scientific evidence has provided an adequate basis for regulatory decision making at this time.

62 Fed. Reg. 38,652, 38,655 (July 18, 1997).[25] Thus, EPA carried out its Clean Air Act responsibilities precisely as

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[25] For instance, scientists disagreed whether a new NAAQS was required to regulate all forms of $PM_{2.5}$ or whether EPA should delay the setting of the standard until more information about the types of particles that deserve regulation was known. In 1996, many of the studies recognized that $PM_{2.5}$ that is rich in either biologically active material or in various metals was likely to be more harmful than $PM_{2.5}$ which has little or no biologic or metallic content. *See, e.g.*, EPA, *Air Quality Criteria for Particulate Matter*, Vol. II, Ch. 8, p. 88 (March 2001). Nonetheless, EPA Administrator Browner chose to err on the side

(Continued on following page)

Congress intended, exercising its technical judgment to review the relevant science and making an endangerment determination based only on the science, even in the face of some residual uncertainty.

The Agency's consistent and exclusive reliance on science to establish the NAAQS for $PM_{2.5}$ was unanimously upheld in *Whitman v. American Trucking Ass'ns,* 531 U.S. 457, 469 (2001), where this Court rejected industry's contention that economic costs may be considered in making the determination as to which pollutants to regulate.[26]

The Clean Air Act did not identify $PM_{2.5}$ as a pollutant of concern. Instead, EPA scientists determined from the scientific literature that fine particles were likely endangering public health and welfare, and the Administrator responded using the tools provided by Congress under the Clean Air Act. As a result of EPA's actions, urban air quality has already improved significantly in just a few years,[27] and it is expected that the new $PM_{2.5}$ standards will save 15,000 lives each year.[28]

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of public health and regulate all forms of $PM_{2.5}$ rather than delay the setting of the standard until further information on the composition and toxicological effects of $PM_{2.5}$ became available. 62 Fed. Reg. at 38,665-67.

[26] It is worth noting that in the Agency's very first round of NAAQS rulemakings in 1971 for a variety of air pollutants, public commenters objected to the proposed NAAQS based on concerns relating to the "feasibility of implementing the proposed standards." In response to those objections, EPA stated that determining which pollutants to regulate "does not permit any factors other than health to be taken into account." 36 Fed. Reg. at 8186.

[27] EPA, *The Particulate Pollution Report: Current Understanding of Air Quality and Emissions Through 2003*, at 1 (Dec. 2004), available at http://www.epa.gov/airtrends/aqtrnd04/pm.html (visited on Aug. 29, 2006).

[28] *See* EPA, *Health and Environmental Effects of Particulate Matter* (July 17, 1997), available at http://www.epa.gov/ttn/oarpg/naaqsfin/pmhealth.html (visited on Aug. 29, 2006).

III. THE AGENCY'S DECISION NOT TO REGULATE VEHICLE EMISSIONS OF POLLUTANTS ASSOCIATED WITH CLIMATE CHANGE MISREADS THE CLEAN AIR ACT AND DEVIATES FROM PAST PRACTICE.

EPA's 2003 decision not to regulate vehicle emissions of pollutants that contribute to climate change represents a fundamental misunderstanding of its responsibilities under the Clean Air Act and a troubling rejection of the bedrock principles that have been so instrumental in the statute's successful implementation. In refusing to regulate vehicle emissions of those air pollutants, EPA construed its authority in a manner that is both too narrow and too broad.

On the one hand, EPA too narrowly construed its authority insofar as it believed that it could not act in the absence of a specific congressional directive. This construction of its authority turns the statute on its head and is at odds with EPA's past practice. As the above examples show, it is precisely those emerging threats with greatest potential to harm human health and welfare that EPA ought to regulate under the expansive authority provided in the Clean Air Act. Many of the Agency's and our nation's finest chapters have been written when it has kept faith with those fundamental principles.

On the other hand, EPA's construction of its authority was too broad in that it refused to regulate greenhouse gases because it "disagreed" with the Clean Air Act's regulatory scheme. *Amici* have never understood the exercise of the Administrator's judgment to be unbounded by the language of the law. As EPA successfully argued in this Court just five years ago, Congress has already made the policy judgment that public health considerations alone should drive the decision to regulate any particular

air pollutant. *Whitman v. American Trucking*, 531 U.S. at 465-72. The Agency's job is to apply this policy direction to specific instances; EPA does not have discretion to refuse to regulate based on factors that Congress has prohibited it from considering. *Id.* at 467. *See also Ethyl Corp. v. EPA*, 541 F.2d at 20 ("Sections 108 and 202 are mandatory in their terms; under both sections the Administrator 'shall' regulate if 'in his judgment' the pollutants warrant regulation. . . . By contrast, section 211 is permissive; the Administrator 'may' regulate if emissions 'will endanger the public health.'").[29]

The 2003 decision also misapprehends the historic and proper role of scientific uncertainty in EPA regulatory decisions under the Clean Air Act. As the *Ethyl Corp.* court recognized, and as Congress subsequently reiterated, scientific uncertainty is inherent in such decisions and, therefore, unavoidable. The 1977 Clean Air Act Amendments, which revised the language of section 202(a)(1) from "will endanger" to "may reasonably be anticipated to endanger," were expressly intended to acknowledge and accommodate "the limitations on research resources and the fact that decisionmaking about the risks to public health from air pollution falls on 'the frontiers of scientific and medical knowledge.'" H.R. Rep. No. 95-294, at 50.

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[29] That is not to say that other factors, such as economic impacts and technological feasibility, are entirely irrelevant. As the Court explained, Congress directed EPA to consider other factors at the implementation – as opposed to the threshold determination – stage. *Whitman v. American Trucking*, 531 U.S. at 467. This two-step approach is evident in section 202(a), as well. Under subsection 202(a)(1), the Administrator "shall" make the health-based endangerment determination. 42 U.S.C. § 7521(a)(1). Then, in implementing regulations under subsection 202(a)(2), EPA may consider such factors as requisite technology and costs of compliance. *Id.* § 7521(a)(2).

In its decision on the petition in this case, EPA relied upon the National Research Council's statement that "a casual linkage between the buildup of greenhouse gases in the atmosphere and the observed climate changes during the 20th century cannot be *unequivocally* established." 68 Fed. Reg. 52,922, 52,930 (Sept. 8, 2003) (emphasis added). In other words, EPA demanded unequivocal proof of a causal link between greenhouse gases and global climate change before an "endangerment" finding is made. "Such a rule would compel EPA to leave hazardous pollutants unregulated unless and until it completely understands every risk they pose, thus thwarting the Clean Air Act's requirement that the Agency err on the side of caution." *American Trucking Ass'ns, Inc. v. EPA*, 283 F.3d 355, 370 (D.C. Cir. 2002) (upholding $PM_{2.5}$ and ozone NAAQSs on remand from this Court). Indeed, had such a flawed approach been followed by EPA in the past, *Amici* would not have been able to protect the public health and the most vulnerable members of our society from the hazards of leaded gasoline, airborne benzene, ozone-depleting CFCs, and particulate matter.

For the past 35 years, our nation has been exceptionally well-served by the system of environmental protection laws put into place by Congress. We have led the world in securing a safe and healthy environment for our citizens, and for the generations to come. The sense of stability and well-being that these efforts have instilled, together with their accompanying economic benefits, have been enormous. While some may wish to stray from the Clean Air Act's successful path under the significant challenge posed by global climate change, the power to do so resides with Congress, not the Agency. Unless and until Congress elects to rewrite the Clean Air Act, EPA's proper role is to apply its technical expertise to the emerging science and, on that

basis alone, make an endangerment determination, one way or the other.

CONCLUSION

The decision of the D.C. Circuit should be reversed for the reasons explained above.

Dated: August 31, 2006

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COMMONWEALTH OF MASSACHUSETTS, ET AL.,
Petitioners,

v.

U.S. ENVIRONMENTAL PROTECTION AGENCY,
Respondent.

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

BRIEF OF AMICUS CURIAE CALPINE CORPORATION IN SUPPORT OF PETITIONERS

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International Harvester Co. v. Ruckelshaus,
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LEGISLATIVE MATERIALS

Climate Change: Conference Before the Senate Comm. on Energy and Natural Resources, 109th Cong. 420 (2006) 5

S. Rep. No. 95-127 (1977), *reprinted in* 1977 CRS Legislative History 1371.....11

H.R. Rep. No. 95-294 (1977), *reprinted in* 1977 CRS Legislative History 2465.....11

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BOOKS

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R. BENEDICK, OZONE DIPLOMACY: NEW DIRECTIONS IN SAFEGUARDING THE PLANET (enlarged ed., Harvard University Press 1998).....14

D. ELLERMAN, P. JOSKOW, R. SCHMALENSEE, J-P. MONTERO, E. BAILEY, MARKETS FOR CLEAN AIR: THE U.S. ACID RAIN PROGRAM (Cambridge U. Press 2000).....14

JAMES K. HAMMITT, CHOOSING ENVIRONMENTAL POLICY: COMPARING INSTRUMENTS AND OUTCOMES IN THE UNITED STATES AND EUROPE (R. Harrington, R. Morgenstern, T. Sterner, eds., Resources for the Future Press 2004).....14

RENE KEMP, ENVIRONMENTAL POLICY AND TECHNICAL CHANGE (UNU-MERIT 1997).....13, 15

R. MORGENSTERN, ED., ECONOMIC ANALYSIS AT EPA (Resources for the Future Press 1997).....4

INSTITUTIONAL PUBLICATIONS

CERES, INVESTOR RESPONSIBILITY RESEARCH CENTER, INC., CORPORATE GOVERNANCE AND CLIMATE CHANGE: MAKING THE CONNECTION (2006).....6, 15

ENERGY INFORMATION ADMINISTRATION, U.S. DOE, IMPACTS OF MODELED RECOMMENDATIONS OF THE NATIONAL COMMISSION ON ENERGY POLICY (2005).....9

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I. CALPINE'S INTEREST

Calpine Corporation[1] ("Calpine") is a U.S. company that owns, leases and operates power generation facilities and sells electricity to wholesale and industrial customers in the United States and Canada. Calpine is one of the preeminent power producers in the United States, with more than 26,500 megawatts of generating capacity. Over the last decade, Calpine completed one of the largest development and construction programs in recent United States history, investing billions of dollars to construct highly efficient, low-emitting power facilities. Today, the company operates one of the cleanest, most efficient fleets of power generation in the United States. Calpine's economic interests will be directly affected by the ruling of the Court in this case.

Amicus Calpine submits this brief for two purposes. First, Calpine agrees with the petitioners that the clear and straightforward language of the Clean Air Act ("CAA") provides the U.S. Environmental Protection Agency ("EPA") with the necessary authority to adopt regulations to curtail emissions of air pollutants associated with climate change, and that the reasons EPA gave for refusing to make an endangerment finding were arbitrary and capricious. Second, Calpine wishes to bring to the Court's attention that a significant portion of the electric generating industry supports a mandatory, national program to reduce emissions of air pollutants associated with climate change, and that such a program does not have to be harmful to the economy. We also believe that such a program initiative should be

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[1] Letters of consent from the parties are being filed in conjunction with this brief. Pursuant to this Court's Rule 37.6, counsel states that this brief was not authored in whole or in part by counsel for a party and that no one other than *amicus* and its counsel made a monetary contribution to the preparation or submission of this brief.

adopted now, while there remains time for an economically efficient transition to a lower-emitting future.

II. STATEMENT

On its face, this case is about authority under Section 202(a)(1) of the CAA, 42 U.S.C. § 7521 (a)(1), which regulates motor vehicle emissions. But the Court's ruling will also effectively determine the EPA's authority to regulate air pollution associated with climate change from all sources, whether from motor vehicles or industrial facilities. There are two reasons for this.

First, the language of § 202(a)(1), 42 U.S.C. § 7521(a)(1), that triggers the process of regulating motor vehicle emissions is identical to language elsewhere in the CAA that initiates various processes for regulating emissions from industrial sources. Section 202(a)(1) instructs EPA to regulate each air pollutant that may "cause, or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare." Similarly, the processes of adopting regulations to control emissions from categories of new industrial sources, including electric generation, and that for developing regulations to control emissions of hazardous pollutants, are triggered by virtually identical statutory language. CAA § 111(b)(1)(A), 42 U.S.C. § 7411(b)(1)(A); and CAA §112(b)(3)(B), 42 U.S.C. § 7412(b)(3)(B).

Second, the Court's ruling will determine the outcome of a case challenging EPA's recent New Source Performance Standards ("NSPS") regulations for small steam generating boilers. 71 Fed. Reg. 9866 (Feb. 27, 2006). In explaining its decision not to regulate the air pollutants associated with climate change from such boilers, EPA took the position that "it does not presently have the authority to

set NSPS to regulate CO_2 or other greenhouse gases that contribute to global climate change." 71 Fed. Reg. 9866, 9869 (Feb. 27, 2006). Thus the EPA has put in issue its authority to regulate industrial sources of the air pollutants associated with climate change in the review of its small boiler regulation. This case is currently suspended pending a decision on joint motions of the parties to hold the case in abeyance while awaiting this Court's definitive ruling on the issue of EPA's authority to regulate air pollutants associated with climate change. *Coke Oven Environmental Task Force v. EPA,* No. 06-1131 and consolidated cases (D.C. Cir., 2006).

III. ARGUMENT

1. The CAA Provides EPA with Authority to Regulate Air Pollutants Associated with Climate Change, and EPA Has Arbitrarily Refused to Exercise Its Authority.

The petitioners in this case present a straightforward question of statutory interpretation: Does the plain language of the CAA provide the EPA with the authority to regulate air pollutants associated with climate change? Calpine agrees with petitioners that the language of the CAA clearly authorizes such regulation.

This authority is apparent in the language of CAA § 202(a)(1), 42 U.S.C. § 7521(a)(1), which directs the EPA Administrator to determine whether "any air pollutant" from new motor vehicles or engines "cause[s], or contribute[s] to air pollution which may reasonably be anticipated to endanger human health or welfare." In turn, the "air pollutants" subject to regulation are defined in the broadest terms. CAA § 302(g), 42 U.S.C. § 7602(g). The statute also defines "welfare" in very broad terms, specifically listing impacts on climate, as well as a host of other climate-related

consequences, as welfare effects. CAA § 302(h), 42 U.S.C. § 7602(h). This language, like that in *Whitman v. American Trucking Ass'n, et al. ("Whitman")*, 531 U.S. 457 (2001) is clear and "absolute," id. at 465, an "elephant" that cannot be hidden in a "mousehole[]." Id. at 468.

EPA's attempt to justify its refusal to find the pollutants associated with climate change "endanger public health and welfare" is entirely arbitrary, invoking considerations that have nothing to do with the statutory standard, and ignoring (or misusing) those that do. Had the EPA applied the statutory endangerment test, and engaged the relevant questions under that test, it could not have rationally avoided a determination that regulation is necessary under § 202(a)(1) of the CAA.

Like petitioners in this case, Calpine does not ask the Court to decide either the content or timing of a program to reduce emissions of these air pollutants. As with other CAA programs, the initial judgment that a pollutant causes or contributes to adverse effects on public health or welfare is separate from subsequent policy decisions about what sort of program will be efficacious, and when such a program should go into effect. *Whitman,* 531 U.S. at 470. We have no doubt that crafting such a program will be a complex task, but not beyond the capability of the EPA, which has had notable success at stimulating technological innovation and reducing costs as a result of intelligent program design. *See, e.g.,* R. MORGENSTERN, ED., ECONOMIC ANALYSIS AT EPA (RESOURCES FOR THE FUTURE PRESS 1997). In any case, these complex issues are not before the Court, which need only interpret the plain language of the statute.

2. A Significant Portion of the Electric Generating Industry Supports a Mandatory National Program to Reduce Emissions of the Air Pollutants Associated with Climate Change.

A significant portion of the electric generating industry believes that mandatory national regulation of the air pollutants associated with climate change is inevitable and desirable, and finds the current stasis in federal policymaking counterproductive and potentially economically wasteful. To date, companies operating 20 percent of all U.S. generating capacity have publicly endorsed mandatory, national regulation to reduce emissions of air pollutants associated with climate change.

In recent testimony before the U.S. Senate, many investor-owned electric generating companies endorsed, in unequivocal language, mandatory, economy-wide policies to regulate emissions of the air pollutants associated with climate change. *Climate Change: Conference Before the Senate Comm. on Energy and Natural Resources*, 109th Cong. 420 (2006) ("Climate Change Hearings"). Companies endorsing mandatory national emission regulations include Duke Energy Corporation,[2] Exelon Corporation,[3] General

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[2] Statement of Ruth Shaw, Group Executive for Public Policy and President for Duke Nuclear, Duke Energy Corporation: "Duke Energy favors U.S. policy on climate change that, first, is mandatory, not voluntary; second, is economy-wide in its scope, sending consistent signals to all sectors in all regions. . . ." Climate Change Hearings at 4.

[3] Statement of Elizabeth Moler, Executive Vice President, Government and Environmental Affairs and Public Policy, Exelon Corporation. "I want to stress the need for a mandatory, comprehensive, and balanced national greenhouse gas program." Id.

Electric Energy,[4] PNM Resources,[5] Sempra Energy, Entergy Corporation, FPL Group (parent company of Florida Power & Light), Pacific Gas and Electric Company, Public Service Enterprise Group, and Calpine Corporation.[6]

"[I]t is only a matter of time before Congress enacts federal carbon constraints," says Ceres, a national organization that speaks for a group of more than 50 institutional investors from the U.S. and Europe managing nearly $3 trillion in assets. CERES, INVESTOR RESPONSIBILITY RESEARCH CENTER, INC., CORPORATE GOVERNANCE AND CLIMATE CHANGE: MAKING THE CONNECTION 12 (2006) *available at* www.ceres.org.

The association representing publicly-owned electric generation, whose members supply 15 percent of the nation's power, also recognizes that there is "an emerging public consensus and a building political directive that inaction is not a viable strategy." Zachary Coile, *Industry Starts to Back Rules on Greenhouse Gas,* SAN FRANCISCO CHRONICLE, Aug. 24, 2006, at A1 (quoting Alan Richardson,

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[4] Statement of David Slump, General Manager, Global Marketing, GE Energy, General Electric Company: "GE supports congressional action now to start reducing greenhouse gas emissions." Id. at 5.

[5] Statement of Jeff Sterba, Chairman, President, and CEO, PNM Resources (an energy holding company that provides electric and gas service throughout the western United States): "[W]e . . . support the move to a mandatory program . . . that is economy-wide." Id. at 6.

[6] Statement of Michael Bradley, Executive Director, Clean Energy Group, representing Calpine, Entergy, Exelon, Florida Power & Light Company, Pacific Gas and Electric, and Public Service Enterprise Group: "Our members support the adoption of a mandatory greenhouse gas regulatory program. . . . " Id. at 40.

President and CEO of the American Public Power Association).

3. Regulation of the Air Pollutants Associated with Climate Change Is Not a Threat to the Economy.

With intelligent policy design, the effect on the American economy of regulating the air pollutants associated with climate change will be modest. While a transition to less-emitting technologies in the energy and other sectors of the economy will not be without cost, the impact on economic growth will most likely be measured in fractions of one percent of Gross Domestic Product. This reality stands in stark contrast to the alarmist view expressed by EPA. Memorandum of Robert E. Fabricant, EPA General Counsel (Aug. 28, 2003), at 10.

The National Commission on Energy Policy ("National Commission"), a private, bi-partisan organization (*see* List of Members in Appendix A), analyzed the economic effects of a program to reduce emissions of air pollutants associated with climate change that would slow and then effectively halt increases in emissions growth from U.S. sources by 2025. NATIONAL COMMISSION ON ENERGY POLICY, ENDING THE ENERGY STALEMATE: A BI-PARTISAN STRATEGY TO MEET AMERICA'S ENERGY CHALLENGES (2004) ("NCEP Report").

The National Commission developed an extremely comprehensive program to reduce emissions of the air pollutants associated with climate change that includes major changes in important segments of the economy, including energy and motor vehicles. Its proposal includes an emission trading program for industrial sources of the air pollutants associated with climate change, accelerated development and deployment of advanced energy technologies, and

strengthened fuel economy standards for cars, small trucks, and heavy duty tractor-trailer trucks.[7] In order to understand the effects of such a comprehensive emission reduction program on the American economy, the National Commission conducted economy-wide modeling of its proposals. The National Commission concluded that, despite the sweeping measures included in its proposal, the impact on the American economy would be small. "The accumulated loss in GDP relative to the Reference Case," the Commission said,

> increases from 0.08 percent in 2010 to 0.18 percent in 2020. That is, total growth from 2005 to 2020 is 63.2 percent rather than 63.5 percent . . . a real dollar loss of $13 billion out of a total GDP of $16.5 trillion in 2010. . . and $42 billion out of a total GDP of $22.6 trillion in 2020. . .

NCEP Report Economic Analysis at 15-16.

The Energy Information Administration ("EIA"), the independent statistical and analytical agency of the Department of Energy ("DOE"), analyzed the energy supply,

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[7] More specifically, the National Commission's strategy included an emissions cap-and-trade mechanism for energy-related CO_2, methane from coal mines, nitrous oxide emissions from nitric and adipic acid production, and emissions of global warming gases such as hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride; a 36 percent increase in the Corporate Average Fuel Economy ("CAFE") standards for cars and light trucks; federal assistance to encourage accelerated development and deployment of advanced energy technologies; new building codes and appliance efficiency standards; and federally-subsidized programs to stimulate deployment of Integrated Gasification Combined Cycle, carbon capture and sequestration technologies, and tax credits for power generations that do not emit air pollutants associated with climate change.

demand, and fuel import impacts of the National Commission's recommended pollution control program. The findings of EIA's report show similarly small effects on the national economy:

> By 2025, potential and actual real GDP are, respectively, about 0.26 percent and 0.4 percent below their reference case levels. These changes do not materially affect average economic growth rates for the 2003 to 2025 period.

ENERGY INFORMATION ADMINISTRATION, U.S. DOE, IMPACTS OF MODELED RECOMMENDATIONS OF THE NATIONAL COMMISSION ON ENERGY POLICY xi (2005).

The findings of the U.S. EIA are entirely consistent with those of other governments. In the United Kingdom, the government has committed itself to a 60 percent reduction in carbon dioxide emissions by 2050. Its plan to achieve such steep reductions in emissions estimates that the cost would be "very small – equivalent in 2050 to just a small fraction (0.5 to 2 percent) of the nation's wealth, as measured by GDP, which by then will have tripled as compared to now." U.K. SECRETARY OF STATE FOR TRADE AND INDUSTRY, OUR ENERGY FUTURE – CREATING THE LOW CARBON ECONOMY 9 (2003).

The findings presented above are a function of the many options available for reducing emissions of air pollutants associated with climate change. For those in the electric generation sector and its customers, there are a wide variety of options available to reduce emissions.

a. Build new plants to meet future demand using fuels with lower emissions. An electric generating company has many options with regard to fuel when it invests in a new

unit. Units powered by renewable sources such as wind, water, solar or geothermal heat, and nuclear units, produce no emissions of the air pollutants associated with climate change. Biomass-powered facilities produce no net emissions. Among fossil fuels, a new natural gas-fired plant produces approximately 60 percent less carbon dioxide emissions than a typical coal-fired plant per unit of energy generated. Choices among these options will be critical, given that the DOE has estimated that to meet future demand for electricity, "the United States will have to build . . . more than 60 to 90 plants a year, or more than one a week." U.S. NATIONAL ENERGY POLICY: REPORT OF THE NATIONAL ENERGY POLICY DEVELOPMENT GROUP TO PRESIDENT GEORGE W. BUSH 5-10 (2001).

b. Replace old, high emitting capacity with new cleaner units. Currently 74 percent of U.S. coal-fired generating capacity is more than 26 years old. NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES, INTERIM REPORT OF THE COMMITTEE ON CHANGES IN NEW SOURCE REVIEW PROGRAMS FOR STATIONARY SOURCES OF AIR POLLUTANTS 54, tbl.3-3 (2005). In many cases generating companies face the question whether to continue investing in these outdated coal-fired units or invest in new, cleaner technologies. A variety of technologies are available that offer the opportunity to generate electricity, even when using coal as a fuel, while limiting, or even eliminating, emissions of the air pollutants associated with climate change. Advanced, less polluting technologies for using coal include integrated gasification combined cycle ("IGCC") which reduces emissions of the air pollutants associated with climate change by about seven to ten percent compared with traditional coal technologies. IGCC also offers a lower cost potential to capture and sequester carbon rather than emitting it into the atmosphere.

c. Improve operational efficiency of existing plants. Significant reductions in emissions can be accomplished by simply improving the efficiency of operations. Calpine has committed to EPA that it will reduce emissions of carbon dioxide from its generating plants by four percent per unit of electricity generated over a five year period. Calpine's program includes more than a dozen initiatives targeted to improve the thermal performance of the company's already efficient combined cycle gas-fired turbine units. The company is making physical modifications and optimizing operating practices as well as improving the management of its fleet's recoverable performance degradation.

d. Increase energy efficiency in the economy. Increasing the energy efficiency of industrial processes, consumer products, and motor vehicles reduces emissions of the air pollutants associated with climate change and costs simultaneously. The potential for increased efficiency has been demonstrated over the past 30 years in California, where peak demand for electricity has been reduced by 54 percent by aggressive energy efficiency measures. Arthur Rosenfeld, Commissioner, California Energy Commission, Presentation to the Energy Symposium 12 (April 28, 2006).[8] As a result of this program, California electricity consumption per person, which was the same in 1960 as the U.S. average, is now more than one-third lower than the U.S. average. Id. at 13. For the future, the National Commission concluded that "it is possible to cost-effectively reduce the nation's annual energy consumption by at least 16 quads per year in 2025 in these three sectors [industrial, commercial,

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[8] *Available at* http://www.energy.ca.gov/commission/commissioners/rosenfeld/html.

transportation] using known efficiency technologies." NCEP Report at 32.

4. Environmental Regulation Has Stimulated Innovation and Lowered the Cost of New Technology.

Stimulating technological innovation to provide higher levels of environmental quality and economic productivity is a fundamental objective of the CAA, evident throughout the statute. *See* 42 U.S.C. §§ 7408(h), 7411(a)(1), 7412(d)(2), 7475(a)(4), 7491(b)(2)(A), 7651(b); *see also, Whitman,* 531 U.S. at 490-492; *Union Electric v. Environmental Protection Agency*, 427 U.S. 246, 257 (1976). Congress first adopted the policy of "technology forcing" in the Clean Air Amendments of 1970, *Alabama Power v. Costle,* 636 F.2d 323, 372 (D.C. Cir. 1979).[9] In 1977 amendments to the CAA, Congress explicitly stated its intent that the law would provide "incentives for improved technology," that those improvements would "become widespread far more rapidly," and that vendors of cleaner

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[9] The federal courts have consistently upheld the CAA's goal of stimulating technological innovation as a way to achieve ambitious environmental standards. In 1973, the U.S. Court of Appeals for the District of Columbia Circuit rejected the argument that EPA was limited to standards requiring "technology in being as of the time of the application." *International Harvester Co. v. Ruckelshaus*, 478 F.2d 615, 629 (D.C. Cir. 1973); *see also Natural Resources Defense Council v. Thomas*, 805 F.2d 410, 429 (D.C. Cir. 1986); *Portland Cement Ass'n v. Ruckelshaus*, 486 F.2d 375, 391 (D.C. Cir. 1973); *Natural Resources Defense Council v. EPA*, 655 F.2d 318, 328 (D.C. Cir. 1981) ("EPA was 'expected to press for the development and application of improved technology rather than be limited by that which exists today.'" [citations omitted]); *Wisconsin Electric Power Co. v. Reilly*, 893 F.2d 901, 909-10 (7th Cir. 1990) ("[I]n passing the Clean Air Act Amendments, Congress intended to stimulate the advancement of pollution control technology."); *Husqvarna v. EPA*, 254 F.3d 195 (D.C. Cir. 2001) ("Congress intended the agency to project future advances in pollution control capability.") (citing *NRDC*, 805 F.2d at 410).

technologies would have a "guaranteed market." *See* S. Rep. No. 95-127, at 31 (1977), *reprinted in* 1977 CRS Legislative History 1371, 1405; *See also* H.R. Rep. No. 95-294, at 186 (1977), *reprinted in* 1977 CRS Legislative History 2465, 2653.

Regulation under the CAA has provided powerful and effective market signals that have stimulated new emission control technologies, product substitution, and alternative manufacturing methods. Section 202(a), the subject of this litigation, is responsible for the development of motor vehicle catalytic control and electronic engine management technologies that have reduced new vehicle emissions of the regulated pollutants by well over 95 percent, while allowing higher fuel economy and performance. 40 CFR Part 86. Sulfur oxide "scrubbers" and selective catalytic reduction technologies to cut emissions of sulfur oxides and nitrogen oxides, now being deployed on electric generating facilities across the U.S., were developed in response to CAA regulations. 40 CFR Part 60, Subpart Da; and 40 CFR Part 73 (scrubbers); 40 CFR Part 76 (nitrogen oxides). Regulations adopted under Title VI of the CAA, §§ 7671c and 7671d, implementing the Montreal Protocol, were responsible for the development of entirely new substitute chemicals for widely-used compounds that were associated with reductions in the earth's protective stratospheric ozone layer. 40 CFR Part 82. Without the ban on future use of ozone-depleting CFCs, "users would not have switched to substitutes – even when they were more cost-efficient." RENE KEMP, ENVIRONMENTAL POLICY AND TECHNICAL CHANGE 316 (UNU-MERIT 1997).[10]

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[10] Regarding the success of the program in reducing emissions of pollutants associated with depletion of the stratospheric ozone layer, *see also* Stephen Anderson and Madhava Sarma, PROTECTING THE OZONE LAYER: THE UNITED NATIONS HISTORY, United Nations Environmental

Finally, CAA regulation has stimulated development of increasingly efficient gas turbine electric generating technology. The efficiency of new state-of-the-art generating facilities today is approximately 33-40 percent higher than was standard in the 1970's. Declaration of Donald P. Walters, Vice President, Calpine Corporation, before the United States Court of Appeals for the District of Columbia Circuit (Nov. 11, 2004) in *State of New York, et al., v. United States Environmental Protection Agency*, 443 F.3d 880 (D.C. Cir. 2006).

Studies of the influence of regulation – particularly market-based regulation such as the acid rain program – show that market-based programs will reduce the cost of meeting environmental standards. The acid rain program, CAA Subchapter IV-A, 42 U.S.C. §§ 7642-7651*o*, has produced large reductions in emissions of sulfur oxides for a cost about one-half that of a traditional command and control program.[11]

5. National Regulation Is Needed Now to Give the Marketplace Clear Signals for How to Provide Value in the Future.

If electric generating companies are to choose the options that minimize emissions of the pollutants associated

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Programme (2002) at 345 *et seq.*; *See also*, R. BENEDICK, OZONE DIPLOMACY: NEW DIRECTIONS IN SAFEGUARDING THE PLANET, (enlarged ed., Harvard University Press 1998), and JAMES K. HAMMITT, CHOOSING ENVIRONMENTAL POLICY: COMPARING INSTRUMENTS AND OUTCOMES IN THE UNITED STATES AND EUROPE 158-174 (R. Harrington, R. Morgenstern, T. Sterner, eds., Resources for the Future Press 2004).

[11] D. ELLERMAN, P. JOSKOW, R. SCHMALENSEE, J-P MONTERO, E. BAILEY, MARKETS FOR CLEAN AIR: THE U.S. ACID RAIN PROGRAM 293-296 (Cambridge U. Press 2000).

with climate change, they must receive market signals that can only be provided by national regulation. Fundamental economic principles tell us that when a price is attached to a good that has been considered free, or the supply limited by regulation, there will be innovation to reduce the use of the good.

Because low- and non-emitting technologies are generally more expensive than traditional pulverized coal boilers, they will not be broadly deployed by the market until regulations are adopted that limit emissions of pollutants associated with climate change, raise the cost of emitting such pollutants, or both. So long as emissions of these pollutants remain an unregulated economic externality, the market will not value technologies that emit less of them.

> Market demand seems to be the crucial factor for the successful exploitation of technological opportunities. In the case of cleaner technologies, market demand depends strongly on government policy.

Kemp, *supra* at 240.

Currently, 153 new coal-fired power plants are under development or construction, according to the DOE. NATIONAL ENERGY TECHNOLOGY LABORATORY, DOE, TRACKING NEW COAL-FIRED POWER PLANTS: COAL'S RESURGENCE IN ELECTRIC POWER GENERATION (2006). Nearly all of the companies developing these units are planning to use the same basic technology that has been used since the early Twentieth Century – burning pulverized coal in a boiler and exhausting the waste products into the atmosphere.

Investments in such outdated facilities will preclude investments in advanced, less polluting technologies. As in

any sector, financial capital is limited within the power industry. If built, these boilers will represent a massive investment of capital that commits our nation to 50-75 years of high emissions of air pollutants associated with climate change. To prevent such misallocations of capital, a market signal from federal regulators is needed.

Market signals are also needed to increase the development of renewable energy sources, such as wind, tides, geothermal heat, solar and biomass. Although some of these sources are already making inroads in the market, regulation of emissions will allow renewables to compete more effectively with fossil fuels. The National Commission estimates that, under the strategy it analyzed, wind and biomass capacity would be nearly four times as great as under the status quo. NCEP Report Economic Analysis at 14.

6. Patchwork Regulations Will Increase Costs.

In the absence of national regulation, states and localities are adopting a variety of control programs of their own. Companies that operate nationally, such as Calpine, face a serious risk of having to comply with a patchwork of multiple overlapping regulatory programs. A proliferation of such programs could have significant negative effects on the cost and effectiveness of Calpine's actions to reduce emissions.

California has adopted legislation and regulations to limit emissions of air pollutants associated with climate change from motor vehicles. CAL. HEALTH & SAFETY CODE

§ 43018.5 (2006). Ten other states[12] are moving to adopt the same program, which would affect at least a third of all new cars and light trucks sold in the United States. Four states[13] already regulate emissions from electric generating facilities, and others are considering such regulations.[14] Seven northeastern states[15] recently agreed to a "Regional Greenhouse Gas Initiative" establishing a "cap and trade" system to reduce emissions of air pollutants associated with climate change from industrial sources, including electric generation. The participating states have agreed to adopt regulations to implement the program by December 31, 2008.

In the absence of federal regulation, state and even local regulatory programs can be expected to proliferate. Based on its erroneous reading of the clear language of the CAA, EPA has refused to advance a unifying national program. We urge this Court to declare the law clearly so that EPA may move forward with the regulatory process.

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[12] Connecticut, Maine, Massachusetts, New York, New Jersey, Pennsylvania, Rhode Island, Oregon, Vermont, and Washington. Ceres Report, *supra* at 12.

[13] Massachusetts, New Hampshire, Oregon and Washington. Id.

[14] For example, California A.B. 32, "Global Warming Solutions Act of 2006."

[15] Connecticut, Delaware, Maine, New Hampshire, New Jersey, New York, and Vermont. Maryland, is expected to be added to the list. The District of Columbia, Massachusetts, Pennsylvania, Rhode Island, the Eastern Provinces of Canada, and New Brunswick are observers in the process. The model rule for the cap and trade system, together with additional information on the RGGI, is available at www.rggi.org.

IV. CONCLUSION

For the reasons presented herein, the Court should reverse the judgment of the Court of Appeals.

Respectfully submitted,

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AUGUST 31, 2006

APPENDIX

APPENDIX A

COMMISSIONERS OF THE NATIONAL COMMISSION ON ENERGY POLICY

John P. Holdren, Co-Chair. Teresa and John Heinz Professor of Environmental Policy, Harvard University; Director of the Woods Hole Research Center.

William K. Reilly, Co-Chair. Founding Partner, Aqua International Partners; former Administrator, U.S. Environmental Protection Agency.

John W. Rowe, Co-Chair. Chairman and CEO, Exelon Corporation.

Phillip R. Sharp, Congressional Chair. President, Resources for the Future; former U.S. Representative, Indiana.

Marilyn Brown. Interim Director, Oak Ridge National Laboratory's Engineering Science and Technology Division.

Ralph Cavanagh. Senior Attorney and Co-Director, Natural Resources Defense Council Energy Program.

Errol B. Davis, Jr. Chancellor, University System of the State of Georgia.

Senator Rodney Ellis. State Senator, Texas.

Leo W. Gerard. International President, United Steelworkers of America.

Robert E. Grady. Managing Partner, Carlyle Venture Partners, the Carlyle Group; former Executive Associate Director, U.S. Office of Management and Budget.

F. Henry Habicht. CEO, Global Environment and Technology Foundation; former Deputy Administrator of the U.S. Environmental Protection Agency.

Frank Keating. CEO, American Council of Life Insurers; former Governor of Oklahoma.

Richard A. Meserve. President, Carnegie Institution; former Chairman, U.S. Nuclear Regulatory Commission.

Mario Molina. Professor, University of San Diego; co-recipient of the 1995 Nobel Prize in Chemistry for pioneering work in the atmospheric chemistry of stratospheric ozone depletion.

Sharon L. Nelson. Chief, Consumer Protection Division, Office of the Attorney General, State of Washington; Chair, Board of Directors, Consumers Union.

Richard L. Schmalensee. Professor of Economics and Management, Massachusetts Institute of Technology; John C. Head III Dean, Sloane School of Management; former member, President's Council of Economic Advisors.

Susan Tierney. Managing Principal, the Analysis Group; former Assistant Secretary, U.S. Department of Energy.

R. James Woolsey. Vice President, Booz Allen, Hamilton; former Director, U.S. Central Intelligence Agency.

Martin B. Zimmerman. Clinical Professor of Business, Ross School of Business, University of Michigan; former Group Vice President, Ford Motor Company.

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Supreme Court
SEP 30 2006
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(22)

No. 05-1120

In the
Supreme Court of the United States

JAMES R. MILKEY *et al.*,
Petitioners,

v.

UNITED STATES,
ENVIRONMENTAL PROTECTION AGENCY, et al.
Respondents.

On Writ of *Certiorari* to the United States
Court of Appeals for the District of Columbia Circuit

MOTION OF *AMICUS CURIAE* JEROME B. CARR, Ph.D. TO FILE A BRIEF IN SUPPORT OF THE RESPONDENTS

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MOTION

Pursuant to Supreme Court Rule 37, I have tried to secure written consent for the filing of the attached *Amicus Curiae* from counsel for the Petitioners and Respondents. Although counsel for the Respondents granted such consent, counsel for the Petitioners withheld it, even though *Amicus* had been told that the Respondents have allowed almost all of the Briefs as requested by the Petitioners. Accordingly, I, Jerome B. Carr, Ph.D. Geologist Geophysicist, and Certified Professional Hydrologist, author of the Brief *Amicus Curiae,* move this court for permission to file the Brief *Amicus Curiae* which is submitted herewith. *Amicus* makes this motion on the following grounds.

Amicus Curiae, Jerome B. Carr, Ph.D., has 40 years experience in review of meteorological data related to applied sciences including meteorology, climatology, hydrology, limnology (study of lakes), oceanography, and telmatology (study of wetlands). I taught *Historical Geology* at Purdue University, and *Air and Land Pollution* for three years at Boston College. I worked for two and a half years in the Atmospheric Physics Department at Sperry Rand Research Center. I am a member of the American Association for the Advancement of Science, and the American Geophysical Union (AGU). As a member of the AGU, I subscribe to their meteorological Journals *Climate and Atmospheric Dynamics*, and *Air Composition and Chemistry*. I am a member of nine other professional scientific organizations, and subscribe to over 20 additional scientific journals. In addition I have built a large technical library at the Carr Research Laboratory, Inc. which was founded in 1974.

The only reason I am asking for permission to have the court accept this Brief *Amicus Curiae* is to raise and answer **two very fundamental questions** that should be presented to this Court, knowing that answering these questions will make the Court's work far simpler and so its decision will be based on defensible world class science.

The legal cause for asking for acceptance of this Brief *Amicus Curiae* is because the Massachusetts Attorney General's office declined to allow permission for me to submit this Brief. Note that my request to the Attorney's General's Office was forwarded to the Sierra Club's lawyer for a decision. I was told over the phone that they had all the climate history they wanted and they did not want any more. I was told that if I submitted a copy of my Brief for them to review, they might consider allowing my Brief to be accepted. However, based on the negative tone of the statements made by the Sierra Club's lawyer, it was very clear that if my Brief *Amicus* did not support the Plaintiff's views, my submittal request would be denied, and this motion would be required.

Note, this work is all *pro bono publico* and neither I nor my firm is being paid for my time and effort. Nobody is prejudiced by this motion or the attached Brief.

Wherefore, Jerome B. Carr, Ph.D., respectfully requests that this Court grant *Amicus Curiae* leave to file the attached Brief in support of linking high quality science to high quality law review by this Court.

Respectfully submitted,

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Dated: 29 August 2006

Respondent's Consent Letter follows this page.

Carr Research Laboratory, Inc.
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MEMO - via Certified Mail

FROM J. B. Carr, Ph.D.

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DATE = 14 August 2006

TO: James R, Milkey, Esq.
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William Albert Anderson. Esq.
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Washington DC 20006

SUBJECT: Permission to file of Brief *Amicus Curiae*,
U.S. Supreme Court No. 05-1120

This is to inform you of my intention to file a Brief *Amicus Curiae* for U.S. Supreme Court Docket No. 05-1120. I will be submitting this document explaining the climatology and evidence from historical geology on this matter. I have been told that I should request your permission in order to submit this brief *Amicus*. I hope that you will grant this permission to help explain the complexities of the science in the case in a brief and understandable fashion for the court. I hope that all parties and the Court will find my work of value in this case.

Also, could you have one of your staff members send me a copy of your most recent document concerning the technical merits of the case. My e-mail address is carr@carr-research-lab.com., and my fax number is above.

Thank you.

If you have any questions or comments, please don't hesitate to contact me.

Cordially,

Jerome B. Carr

Jerome B. Carr, Ph.D.
Environmental Scientist,
Geologist, and
Certified Professional Hydrologist

WILLIAMS MULLEN

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August 15, 2006

VIA HAND DELIVERY

The Honorable William K. Suter,
Clerk Supreme Court of the United States
1 First Street, N.E.
Washington, DC 20543

Re: *Massachusetts v EPA*, No. 05-1120

Dear Mr. Suter:

Please be advised that, as contemplated by Rule 37.3(a), the Alliance of Automobile Manufacturers, the Engine Manufacturers Association, the National Automobile Dealers Association, and the Truck Manufacturers Association consent to the filing in this case of all *amicus* briefs that otherwise comply with the Court's rules.

Thank you for your cooperation and assistance.

Very truly yours,

William A. Anderson, II

WAA/mmr

cc: The Honorable Paul D. Clement
James R. Milkey, Esquire
Thomas L. Casey, Esquire
Russell S. Frye, Esquire
Norman W. Fichthorn, Esquire
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The Honorable William K. Suter, Clerk
Supreme Court of the United States
1 First Street, N.E.
Washington, DC 20543

22 August 2006

Re.: Commonwealth of *Massachusetts, et al.* v. *U.S. Environmental Protection Agency, et al.*, No. 05-1120

Dear Mr. Suter:

Please be advised that respondent CO_2 Litigation Group hereby grants its consent, pursuant to Rule 37.3(a), to the filing in this case of all *amicus curiae* briefs that otherwise comply with the Court's rules.

Thank you for your attention to this matter.

Sincerely,

Russell S. Frye

cc: Hon. Paul D. Clement
James R. Milkey
David Bookinder
Thomas L. Casey
William A. Anderson, II
Norman W. Fichthorn
Stephan C. Volker
Jerome B. Carr, Ph.D.

In the
Supreme Court of the United States
October Term, 2005

No. 05-1120

James R. Milkey *et al.*,
Petitioners,

v.

UNITED STATES,
ENVIRONMENTAL PROTECTION AGENCY, et al.
Respondents.

On Writ of *Certiorari* to the United States
Court of Appeals for the District of Columbia Circuit

BRIEF OF *AMICUS CURIAE* JEROME B. CARR, Ph.D. GEOLOGIST, GEOPHYSICIST & CERTIFIED PROFESSIONAL HYDROLOGIST IN SUPPORT OF THE RESPONDENTS ON THE MERITS

QUESTIONS PRESENTED FOR REVIEW

1- Does carbon dioxide (CO_2) qualify as a "pollutant"?

2- What does Historical Geology and Historical Climatology teach us about glacial cycles and the start and ending of glacial conditions relative to CO_2 concentrations in the atmosphere?

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INTERESTS OF THE *AMICUS CURIAE*

Amicus Jerome B. Carr, Ph.D., seeks to bring to the Court's attention the views logically derived from scientific interpretation of glacial and climate data published in the scientific literature concerning the long term glacial history of the Earth, its recorded climatic changes, and their relationship, or lack thereof, to the carbon dioxide (CO_2) content of the atmosphere.[1]

Amicus Curiae Jerome B. Carr, Ph.D., has spent much of his 40 year career working on sciences associated with the historical behavior of the atmosphere; including but not limited to: (1) teaching *Historical Geology* at Purdue University, (2) teaching *Air and Land Pollution* at Boston College for three years, (3) two and a half years of meteorological and climatic studies at Sperry Rand Research Center, and (4) more than 30 years of on-going and routine processing of climatic data for hydrological studies. Since 1984 I have been a Certified Professional Hydrologist by the American Institute of Hydrology. Knowing that both science and the interpretation of the law requires detailed knowledge and precise application of that knowledge to benefit all our citizens and residents, I am seeking to assist the Court by briefly reviewing the history of the Earth and its atmosphere relative to the CO_2 concentrations as a possible cause of recent or future atmospheric warming.

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1 Pursuant to Supreme Court Rule 37.6 *Amicus* states that he alone authored this Brief, without benefit of counsel, and that no one other than the *Amicus* made a monetary contribution to the preparation or submission of the brief. Pursuant to Supreme Court Rule 37.3(a) *Amicus* submitted a consent letter to both parties for the filing of this Brief, and counsel for Respondents signed a consent letter, while counsel for the Plaintiffs verbally declined to do so, and never bothered to reply in writing.

2

JURISDICTION

The definition of "pollutant" is "something that pollutes." The definition of the verb "pollute" in its clearest form is "to make unclean or unfit for use." Based on these simple straight-forward definitions, carbon dioxide (CO_2) does not make the atmosphere unclean because it is an odorless, tasteless, colorless, invisible gas; which under normal circumstances is stable, inert, and non-toxic.[2] It does not make the atmosphere unfit for use because in the geological past, from 25 to 45 million years ago, CO_2 levels have been measured at 1,000 to 1,500 parts per million (ppm), while modern post-glacial concentrations are now measured are in the range of 200 to less than 400 ppm.[3] Thus, since plant life on land has existed for some 450 million years, and since air breathing animals have existed for about 375 million years, there has been no evidence that carbon dioxide has ever made the atmosphere "unfit for use" under all the known and unknown variations of CO_2 concentrations in atmospheric chemistry. Thus, CO_2 is not a pollutant, and is not, and should not, be regulated under any part of the Clean Air Act nor under any air pollution section of 40 CFR.

SUMMARY OF THE ARGUMENT

It is well known that there have been four major glacial periods in the past 1.72 million years. Even within

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2 Lindsey, J. S.; *McGraw-Hill Encyclopedia of Science and Technology*, 5th Edition, Volume 2, page 585; McGraw-Hill Book Co., New York, 1982.

3 Pagani, M., et al, Marked Decline in Atmospheric Carbon Dioxide Concentrations During the Paleogene, Science Vol. 309, No. 5734, pp. 600-603, 22 July 2005.

the last 10,000 years, which defined the most recent glacial retreat, there have been significant climatic fluctuations. The last period of glacial advances and associated cooling lasted from about 1300 AD to 1850 AD.[4] There is no consistency within the geological and climatic record that these glacial advances and retreats were caused by changes in atmospheric chemistry, and in specific with carbon dioxide (CO_2)concentrations in the atmosphere. Thus CO_2 is not a pollutant as defined in the best dictionaries, nor will its regulation by any level of government prevent either cooling or warming of the atmosphere in the future.

ARGUMENT

Scientific evaluation of climatic conditions must seek understanding of atmospheric behavior based on the long term records. If carbon dioxide (CO_2) concentrations in the atmosphere fail to explain all the known warming and cooling climatic events related to glaciation and deglaciation, then CO_2 emissions from any sources most certainly should not be regulated by the EPA or any state or federal regulations. A very brief summary of large-scale glacial events since vigorous life existed on earth follows, first with the coarse scale CO_2 data of the earlier geological periods, then with finer scale data from the more recent geological history, and then during the Little Ice Ages in human history.

Note, in this Brief, the term major glaciation means glaciers were present over a significant portion of at least one continent. Small-scale glaciations due to localized mountain building are not counted as large-scale events because they are not caused by cooling or warming initiated by possible world-wide changes in atmospheric chemistry.

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4 Grove, Jean M.; *Little Ice Ages*, Page 505, Routledge; Taylor Francis Group, New York, 2004.

Note also that the basic premise of climate temperatures driven by atmospheric chemistry means both the cooling events and the warming events which are associated wit h large-scale glaciation should be reflected in the atmospheric chemical data. If large scale atmospheric temperatures are truly controlled by the heat retaining gases in the atmosphere, then those gases should affect both warming and cooling. Failure to explain both cooling and warming means the concept of chemical drive glaciation is invalid.

As background, this Brief reviews the history of the earth going back to the start of the Cambrian Period when complex life began to leave a very obvious and wide-spread fossil record. Since many readers may have forgotten their basic earth science, each geological period will have its ages given for added clarity. Thus, the Cambrian Period started 590 million years ago, and ended 505 million years ago. There was no large scale glaciation for those 85 million years.

The Ordovician Period immediately followed the Cambrian and it ended 438 million years ago. During the late Ordovician, continental glaciation existed from 448 million years ago to 438 million years ago.[5] Thus the end of the glacial conditions ended the Ordovician. However, the CO_2 concentrations in the atmosphere were measured at about 12.1 times higher than the present CO_2 concentrations at the start of the glaciation, and had dropped to an average of about 11 times higher than present when the glaciers disappeared.[6] This means that, in spite of

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5 Berry, W. B. N.; *McGraw-Hill Encyclopedia of Science and Technology*, 5th Edition, Volume 9, page 610; McGraw-Hill Book Co., New York, 1982.

6 Appenzeller, Tim; *Searching for Clues to Ancient Carbon Dioxide*, Science, Vol. 259, No. 5097, pp. 908-909, 12 Feb. 1993.

very high CO_2 concentrations, glacial conditions were initiated and that the initial warming was not related to rising low CO_2 concentrations. The data record tells us that CO_2 concentrations were decreasing before, during, and after the period of glaciation. Thus CO_2 was not a cause of the large scale glaciation, but an effect of something else, most likely related to increasing total amounts of plant life on earth.

During the next two geological periods (Silurian and Devonian) covering 78 million years, the Devonian ended 360 million years ago. There was no large-scale glaciation in either of these geological periods. However there was a continued decrease in the CO_2 concentrations followed by a large jump which started 427 million years ago which left a deep valley in the CO_2 graph, and the nadir of the valley was in the middle Silurian. The initial decrease in CO_2 followed by the sudden increase, followed a continued decrease did not trigger any large scale glaciation.

The next two geological periods were the Carboniferous, which started 360 million years ago and ended 286 million years ago; and the Permian which ended 248 million years ago. The Carboniferous in North America is broken into the Mississippian and the Pennsylvanian Periods. Since large-scale glaciation occurred for the latter two thirds of the Carboniferous and the just over half of the Permian, and since North American was not glaciated for much of the Carboniferous, the term Carboniferous will be used in this Brief.

During the later two-thirds of the Carboniferous Period, a long period of large scale glaciation occurred with an unknown number of glacial retreats and advances. This glaciation continued into the early and middle Permian Period with an unknown number of glacial advances and retreats. The glaciation was initially concentrated in the southern part of Africa, but later it

had expanded into Europe and North America. Preceding the initiation of glaciation, CO_2 concentrations were declining just as they had in previous geological periods, and actually reached concentrations less than at present during the middle of the glaciation. The Carboniferous Period is famous for its great coal deposits, and this coal deposition means carbon continued to be stripped from the atmosphere in huge amounts even after glaciation started. The estimated CO_2 concentration at the end of the mid-Permian glacial activity duplicated the estimated concentrations when the Carboniferous glacial activity started. This modest increase in CO_2 during the later half of the 78 million years of glaciation was most likely due to the decrease in coal deposition in the early Permian.

The next two geological periods are the Triassic and Jurassic, the later ending 144 million years ago. In terms of potential CO_2 initiation of cooling during these periods, there was a sharp dip in CO_2 concentrations at 147 million years ago, which was in the late Jurassic Period. There is no record of this sharp drop in CO_2 concentrations being associated with any glacial activity. Thus on a broad scale, CO_2 decreases had no consistent relationship to the initiation of glacial formation.

The periods from144 million years ago to 5.1 million years ago were free of large scale glaciation, just as the Triassic and Jurassic were. The geologic periods starting at 144 million years ago were the Cretaceous, Paleocene, Eocene, Oligocene and the Miocene. During this extended time there was a major increase in CO_2, followed by significant a decrease in CO_2, followed by a very large increase in CO_2, followed by a gradual decline in CO_2. None of the above decreases in CO_2 triggered a new glacial age. In fact, CO_2 measurements from sediment cores from the past 45 million years showed that the final decrease in CO_2 concentrations had at six sharp rising spikes in CO_2 until the Miocene.[3] Then in the Miocene from 23 million years ago to 5 million years ago, CO_2

concentrations were quite stable, and within the range of recent measurements. These more detailed and sustained low CO_2 measurements in the 18 million years of the Miocene are a very strong argument against the idea that low CO_2 causes cooling or triggers initiation of glaciation.

In more recent geological history, finer scale CO_2 and temperature data are available from ice cores. One illuminating study was done on the Vostok ice core from Antarctica, which was analyzed from the time period 155 to 115 thousand years ago. This included about 19% of the last northern hemisphere interglacial (mostly ice free) period and included about 12,000 years of the start of the latest continental glaciation known as the Wisconsin Period, which started 127,000 years ago. This 40,000 years of data plotted in Figure 7 of the study[7], revealed the following information about the modern relationship of CO_2 to temperature.

From 155,000 years ago to 145,00 years ago, CO_2 concentrations were slowly rising on average, and temperatures were fairly stable on average with 14 to 15 peaks and valleys. Then CO_2 concentrations increased and temperatures increased by 12°C (22°F), but note that temperatures peaked about 1,500 years after CO_2 peaked. Then for 6,000 years temperature declined 2.7°C (4.9°F) while CO_2 concentrations declined very slowly. At the end of the 6,000 years the new ice age started. After the ice age started, temperatures continued their rapid decline while CO_2 barely decreased for 3,000 years and then CO_2 actually increased for the next 9,000 years as the temperature decline continued. This 9,000 year increase in CO_2 concentrations, with temperatures continuing a

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7- Raynaud, D., et al.; *The Ice Record of Greenhouse Gases*, Science, Vol. 259, No. 5097, pp 926-934, 12 February 1993.

vigorous decline by another 4.7°C.(8.5°F), is proof positive that increasing CO_2 did not cause atmospheric warming.

These series of events for the entire period from the Cambrian to the start of the last glaciation tell us that there is no simple or consistent relationship between CO_2 and temperatures. Thus the presumed CO_2 relationship with temperature is not substantiated by a careful review of the scientific data. Rather, there are numerous feed-back mechanisms at which affect start glacial cooling and which trigger glacial melting. These include, but are not limited to, the following:

- peat formation in wetlands becoming coal acting as a carbon sink;
- carbon utilization in the oceans being dependent on ocean water circulation patterns;
- snow and ice accumulation on land masses reflecting a great deal of sunlight back to space and this has more temperature impact than CO_2 concentrations ever could;
- slow changes in the orientation of the earth's axis is known to affect seasonal warming patterns; and
- mountain building, plateau uplift, and closing the low latitude connection between the Pacific and Atlantic Oceans playing a significant role in dynamic effects on climate.

In addition, one needs to know that the duration of the three interglacial periods in the northern hemisphere. The first lasted 420,000 years, the second lasted 220,000 years, and the third lasted for 7,000 years. Given this track record, we should all be sure of one thing. That is, the northern hemisphere glaciers will continue to melt for anywhere from the next few years, to the next thousand years, to tens of thousands of years; and sea level will rise no matter what; unless the solar system passes into a dust cloud, or a major meteor strikes the earth, or if a new and major series of volcanic eruptions occur. Thus pursuit of minor reductions in CO_2 will be a waste of human effort and funds under all foreseeable

circumstances. Note also that methane is also a heat retaining gas in the atmosphere, and quite honestly the methane data better tracks the temperature data than does the CO_2 data in the study referenced. Thus, CO_2 is more than likely a poor and ineffective first choice for action.

On the large time scales discussed above, it must be stressed that the Earth has been free of continental glaciation for more that 80% of the post-Cambrian time, and for about 95% of the time since the Carboniferous/ mid-Permian glaciation ended. Thus the normal status of the Earth's climate is warm enough to prevent large scale glacial activity. This should make things 100% clear that the cry to "stop the glacial melting" is pure nonsense, because no law, regulation or policy can stop the Earth's climate from returning to its normal glacier free status.

On a finer time scale, everyone should be aware of the "Little Ice Ages" that took place over the past 10,000 years. The most recent of these lasted from 1300 AD to about 1850 AD. Concerning those cooler periods[4] it is concluded, on Page 569 of the detailed study of these cooling events, that CO_2 and methane, which is another gas that may trap heat in the atmosphere, are not directly causal of changes that triggered any of the four recent glacial events or their melting. This confirms my conclusions derived from review of the longer and mid-range historical geology and climatology data. Given the detailed analyses in that thorough study, I have chosen not to comment on that data in this Brief. In addition, I point out that on page 933 in Raynaud[7], the group of author scientists concluded that CO_2 variations observed are basically caused by ocean processes, by changes in the vegetation patterns, and by geological events that impact the surface of the Earth. This conclusion clearly and unequivocally confirms that the causes of climate change are far too complex for anyone to believe that reductions in CO_2 would protect any location from the warming associated with the slow rise in sea levels which

are inevitable given an eventual return to a normal glacial free Earth.

Now let us speculate on the future if a fifth ice age is going to follow the present warming trend. Under that scenario, if CO_2 would help warm the earth in any significant fashion, then the on-going increase in CO_2 might actually benefit the human race. If the glaciers return to the same extent as before, Massachusetts, Rhode Island, Maine, Vermont and New Hampshire will be buried under more than 1,000 feet of ice. In addition, in New York State; Albany, Syracuse, Rochester, and Buffalo will be 100% destroyed. The same applies to Cleveland, Detroit, Chicago, Milwaukee, and maybe St. Paul, Minnesota too. If a new glacial period is on its way, maybe the CO_2 could be beneficial if it can actually drive the climate, rather that just respond to it.

As a final note, it must be stressed that recent global warming may not be as severe as compiled from recent temperature statistics. Here it must be noted that many weather observation stations are in large cities or near airports. The temperature data from these stations are biased upwards by the heat islands caused by urbanization. I'll give one example from my home town. The local newspaper ran a story after a large snow storm with many pictures of a 1944 blizzard. The article mentioned that the streets were not plowed, and that people drove over packed snow until spring melting. In a similar snow storm today, the streets would be plowed free of snow in a day or so, and the exposed black-top would heat the above-lying air. Add to this more streets, more housing, and more air conditioners pumping heat into the air in the summer; it becomes quite easy to see what causes urban heat islands that can bias historical temperature data. Even at airports, the change from grassed runways to paved runways, then to multiple paved runways, to new near-by commercial or industrial buildings; all add up to more heat generating surfaces that do increase local temperature readings. If the temperature data is not

corrected for these local micro-climate changes, or if the long term data are not restricted to areas away from recent urban land use changes, then recent warming statistics from ground level stations may not reflect real world continental temperature trends from ground level stations.

CONCLUSION

Carbon dioxide does not meet any possible definition of having the ability to pollute. It is a clear, odorless, tasteless, colorless, invisible gas; which under normal circumstances is stable, inert, and non-toxic. Thus it is not a pollutant which makes the atmosphere unclean or unfit for use. A review of the history of CO_2 in the atmosphere shows that in distant past, the concentrations in air were 16 to over 25 times more than at present. Thus life will go on in spite of modest recent and on-going increases in CO_2.

A brief review of geological history shows that 95% of the time since the end of Carboniferous/mid-Permian glaciation, the earth has been free of continental glaciation. Thus the normal status of the Earth is one free of continental glaciation. No one can stop the Earth and its climate from returning to this normal status.

In addition, in review of the CO_2 data for the Ordovician and Carboniferous periods, the CO_2 concentrations in the atmosphere did not consistently demonstrate that decreasing CO_2 concentrations lead to continental glaciation, nor were rising concentrations a cause of the end of the glacial periods.

Looking at the more refined data from sediment and ice cores, there is no meaningful pattern of decreasing CO_2 concentrations starting recent ice ages, and no increasing CO_2 concentrations ending recent ice ages. On an even finer scale, the data from the past 10,000 years of

glacial retreat had many interruptions with glacial advances on a world wide scale. Rather than CO_2 being driving force for all these changes, both large and small, it turns out that there are many complex environmental interactions which alter CO_2 concentrations when climate changes occur due to causes other than rising CO_2 concentrations.

Respectfully submitted,

Jerome B. Carr

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Dated: 29 August 2006

477H

No. 05-1120

Supreme Court, U.S.
FILED
OCT 2 4 2006
OFFICE OF THE CLERK

IN THE

Supreme Court of United States

MASSACHUSETTS, *et al.*,
Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, *et al.*,
Respondents.

On Writ Of Certiorari To The United States Court Of Appeals For The D.C. Circuit

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BRIEF OF THE CATO INSTITUE AND LAW PROFESSORS JONATHAN H. ADLER, JAMES L. HUFFMAN, AND ANDREW P. MORRISS AS *AMICI CURIAE* IN SUPPORT OF RESPONDENTS

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TABLE OF AUTHORITIES
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151 Cong. Rec. S7033 (June 22, 2005) 22
Stephen Breyer, *Judicial Review of Questions of Law and Policy*, 38 Admin. L. Rev. 363 (1986) 24
Control of Emissions from New Highway Vehicles and Engines, 68 Fed. Reg. 52922, 59926-27 (Sept. 8, 2003) 21, 23
Declaration of M. MacCracken 14
Declaration of Michael P. Walsh 13
Marci A. Hamilton, *Representation and Non-Delegation: Back to Basics*, 20 Cardozo L. Rev. 807 (1999) 19
Thomas Jefferson, *Jefferson's Notes on the State of Virginia*, Query XIII (Merrill D. Peterson ed., 1975) 18
James Madison, 2 *Records of the Federal Convention of 1787* (M. Farrand ed., 1966) 9
John Manning, *The Nondelegation Doctrine as a Canon of Avoidance*, 2000 Sup. Ct. Rev. 223 20
John F. Manning, *Textualism as a Nondelegation Doctrine*, 97 Colum. L. Rev. 673 (1997) 18
Henry P. Monaghan, *Marbury and the Administrative State*, 83 Colum. L. Rev. 1 (1983) 20
National Academy of Sciences/National Research Council, *Climate Change Science: An Analysis of Some Key Questions* (2001) 11
Barry G. Rabe, *Statehouse and Greenhouse: The Emerging Politics of American Climate Change Policy* (2004) 8

TABLE OF AUTHORITIES
(continued)

Page(s)

Arnold W. Reitze, Jr., *Air Pollution Control Law: Compliance & Enforcement* (2001) 22, 23
John G. Roberts, Jr., *Article III Limits on Statutory Standing*, 42 Duke L.J. 1219 (1993) 7, 9
Antonin Scalia, *How Democracy Swept the World*, Wall St. J., Sept. 7, 1999 19
David Schoenbrod, *Power Without Responsibility: How Congress Abuses the People Through Delegation* (1993) 19
Cass R. Sunstein, *Nondelegation Canons*, 67 U. Chi. L. Rev. 315 (2000) 18
T.M.L. Wigley, *The Kyoto Protocol: C02, CH4, and Climate Implications*, 25 Geophysical Research Letters 2285 (1998) 14

BRIEF OF THE CATO INSTITUTE AND LAW PROFESSORS JONATHAN H. ADLER, JAMES L. HUFFMAN, AND ANDREW P. MORRISS AS *AMICI CURIAE* IN SUPPORT OF RESPONDENTS

INTERESTS OF *AMICI CURIAE*[1]

The Cato Institute was established in 1977 as a non-partisan public policy research foundation dedicated to advancing the principles of individual liberty, free markets, and limited government. Cato's Center for Constitutional studies was established in 1989 to help restore the principles of limited constitutional government, including the idea the U.S. Constitution separates power among three coordinate branches of the federal government in order to preserve citizens' liberty, and that the government's role in private economic affairs is necessarily limited. Toward that end, the Institute and the Center undertake a wide range of publications and programs, including the *Cato Supreme Court Review*. The instant case directly concerns the separation of powers and the role of the courts in formulating national economic and environmental policy, and threatens to dramatically expand the role of the federal government in regulation of the U.S. economy. It is therefore of central interest to the Cato Institute and its Center for Constitutional Studies.

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[1] Pursuant Supreme Court Rule 37.6, *amici* state that all parties have consented to the filing of this brief, that no counsel for a party authored this brief in whole or in part, and that no persons or entities other than *amici*, their members, and their counsel made a monetary contribution to the preparation or submission of this brief.

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The views expressed herein are those of the Cato Institute and the individual law professor *amici*. These views do not necessarily represent the views of *amici* law professors' employers or any other group or organization with which they may be affiliated.

SUMMARY OF ARGUMENT

Climate change is a serious public policy issue. So-called "global warming" may well be the greatest environmental concern of the twenty-first century. The significance of anthropogenic contributions to climatic warming does not, however, mean that courts should—or even have the jurisdiction to—consider legal claims that seek to direct U.S. policy on the subject. Current claims of injury from global warming are quintessential generalized grievances that courts are not competent to address. However serious or urgent the threat of climate change may be, such concerns are best resolved through the political process. To thrust them upon the courts, absent the direction (let alone acquiescence) of the political branches, undermines both the separation of powers and the democratic legitimacy of climate change policy.

In this case, petitioners are asking this Court to force the Environmental Protection Agency (EPA) to impose nationwide regulations on greenhouse gases, the most ubiquitous by-products of modern industrial society, without the concurrence of *either* political branch, let alone the delegation of such power from the legislature. Yet, it is for Congress and the executive, not the courts, to make the ultimate decisions as to how this nation, alone or in concert with others, will address the threat of climate change.

Article III standing is an essential component of the separation of powers. Among other things, the requirement of Article III standing ensures that exercises of judicial power are confined to "cases" or "controversies" that are fit for judicial resolution. In this case, petitioners cannot satisfy the essential requirements of Article III standing. First, they have failed to allege an injury-in-fact that is both actual or imminent as well as concrete and particularized. Indeed, as petitioners strain to demonstrate their alleged harms satisfy the first prong of the injury-in-fact requirement, they

undermine their ability to satisfy the other requisite half of that test. Further, petitioners' claims are not redressable. Therefore, petitioners do not have standing to advance their claims, and federal courts do not have jurisdiction to hear their claims.

Even were petitioners to have standing, their fundamental claim is without merit, as Congress has not delegated authority to the EPA to regulate emissions of greenhouse gases, whether from motor vehicles or any other source. Federal agencies possess no inherent powers. As all legislative powers of the federal government are vested in the Congress, agencies have only those powers expressly delegated them by the legislature.

The language, structure, history, and underlying logic of the Clean Air Act compel the conclusion that Congress has not delegated authority to the EPA to regulate greenhouse gases as such. This conclusion is confirmed by decades worth of congressional debates over what, if anything, should be done to address concerns about global climate change. If the United States is to adopt additional measures to address the threat of climate change, it must be with the concurrence of the legislature, not by judicial fiat.

ARGUMENT

I. PETITIONERS HAVE NOT SATISFIED THE REQUIREMENTS OF ARTICLE III STANDING

Separation of powers is an essential feature of the American constitutional system, and is necessary to the preservation of individual liberty. *Metropolitan Washington Airports Auth. v. Citizens for the Abatement of Aircraft Noise, Inc.*, 501 U.S. 252, 272 (1991) ("The ultimate purpose of this separation of powers is to protect the liberty and security of the governed."); *Buckley v. Valeo*, 424 U.S. 1, 124 (1976) ("The principle of separation of powers was not simply an abstract generalization in the minds of the

Framers: it was woven into the document that they drafted in Philadelphia in the summer of 1787."). The importance of separation of powers principles "transcends the convenience of the moment." *Clinton v. New York*, 524 U.S. 417, 449-50 (1998) (Kennedy, J., concurring). The seriousness of the harms alleged by the petitioners does not alter this principle. *See Bowsher v. Synar*, 478 U.S. 714, 722 (1986) ("That this system of division and separation of powers produces conflicts, confusion, and discordance at times is inherent, but it was deliberately so structured . . . to provide avenues for the operation of checks on the exercise of governmental power."). *Cf. United States v. Lopez*, 514 U.S. 549, 577 (1995) (Kennedy, J., concurring) ("It would be mistaken and mischievous for the political branches to forget that the sworn obligation to preserve and protect the Constitution in maintaining the federal balance is their own in the first and primary instance . . . the political branches of the Government must fulfill this grave constitutional obligation if democratic liberty . . . [is] to endure.").

The Article III requirement of standing is an essential part of the separation of powers. *Allen v. Wright*, 468 U.S. 737, 752 (1984) ("the law of Article III standing is built on a single basic idea—the idea of separation of powers"). "To permit a complainant who has no concrete injury to require a court to rule" on important questions of national—or even international—importance "would create the potential for abuse of the judicial process, distort the role of the Judiciary in its relationship to the Executive and the Legislature and open the Judiciary to an arguable charge of . . . 'government by injunction.'" *Schlesinger v. Reservists Comm. to Stop the War*, 418 U.S. 208, 222 (1974). "[I]f the judicial power extended . . . to every question under the laws . . . of the United States," John Marshall warned, "[t]he division of power [among the branches of government] could exist no longer, and the other departments would be swallowed up by the judiciary." 4 *Papers of John Marshall* 95 (C. Cullen ed.,

1984); *see also United States v. Richardson*, 418 U.S. 166, 192 (1974) (Powell, J., concurring) ("we risk a progressive impairment of the effectiveness of the federal courts if their limited resources are diverted increasingly from their historic role to the resolution of public-interest suits brought by litigants who cannot distinguish themselves from all taxpayers or all citizens").

Petitioners have failed to meet their burden of establishing that even one claimant has standing under Article III. Standing requires that "the plaintiff must have suffered an 'injury in fact,'" that is "actual or imminent" and "concrete and particularized." *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560-61 (1992). In addition, the plaintiff must demonstrate that the alleged injury is "fairly traceable" to the conduct complained of and that "the injury will be redressed by a favorable decision." *Id.* (citation omitted). *See also Allen*, 468 U.S. at 751 ("A plaintiff must allege personal injury fairly traceable to the defendant's allegedly unlawful conduct and likely to be redressed by the requested relief."). Petitioners bear the burden of demonstrating that they have satisfied all three elements. *DaimlerChrysler Corp. v. Cuno*, 126 S. Ct. 1854, 1861 n.3 (2006) ("because we presume that federal courts lack jurisdiction unless the contrary appears affirmatively from the record, . . . the party asserting federal jurisdiction . . . has the burden of establishing it") (citation omitted); *Steel Co. v. Citizens for a Better Environment*, 523 U.S. 83, 104 (1998) (parties "invoking federal jurisdiction bear[] the burden of establishing its existence"). This is a burden they cannot meet. In the present case, petitioners have not suffered an "injury-in-fact," nor have they demonstrated that any alleged injury is redressable by a favorable decision.

A. Petitioners' Concerns About Global Warming Present Generalized Grievances Not Fit For Judicial Resolution

Courts lack jurisdiction to hear claims that consist of nothing more than "generalized grievance[s]" that are "common to all members of the public." *Richardson*, 418 U.S. at 176. Courts can only exercise jurisdiction over the claim if the plaintiff has "a sufficient stake in an otherwise justiciable controversy to obtain judicial resolution of that controversy." *See Sierra Club v. Morton*, 405 U.S. 727, 731 (1972). As the Chief Justice has observed, "[b]y properly contenting itself with the decision of actual cases or controversies at the instance of someone suffering distinct and palpable injury, the judiciary leaves for the political branches the generalized grievances that are their responsibility under the Constitution." John G. Roberts, Jr., *Article III Limits on Statutory Standing*, 42 Duke L.J. 1219, 1229 (1993). Indeed, it can be said that "[n]o principle is more fundamental to the judiciary's proper role in our system of government than the constitutional limitation of federal-court jurisdiction to actual cases or controversies." *Raines v. Byrd*, 521 U.S. 811, 818 (1997) (quotation omitted).

The standing question is not merely whether a given claim can be heard, but whether the given litigants are the proper parties to bring a given claim. *Allen*, 468 U.S. at 752 ("the standing inquiry requires careful judicial examination of a complaint's allegations to ascertain whether the particular plaintiff is entitled to an adjudication of the particular claims asserted."). "The 'core component' of the requirement that a litigant have standing to invoke the authority of a federal court 'is an essential and unchanging part of the case-or-controversy requirement of Article III.'" *Cuno*, 126 S. Ct. at 1861. A proper showing of standing is necessary, in part, because an exercise of the judicial power

"can so profoundly affect the lives, liberty, and property of those to whom it extends." *Valley Forge Christian College v. Americans United for Separation of Church & State*, 454 U.S. 464, 473 (1982). Without question, policy decisions concerning if, when, and how to address climate change will "profoundly affect the lives, liberty, and property" of all Americans, making such matters particularly unsuitable for resolution by this Court.

That climate change may be an urgent concern provides no argument for discarding the traditional requirements of standing. As this Court has noted before:

> It can be argued that if [petitioners are] not permitted to litigate this issue, no one can do so. In a very real sense, the absence of any particular individual or class to litigate these claims gives support to the argument that the subject matter is committed to the surveillance of Congress, and ultimately to the political process.

Richardson, 418 U.S. at 179.

That an issue cannot be addressed in the Court does not mean it will not be addressed. "Lack of standing within the narrow confines of Article III jurisdiction does not impair the right to assert [their] views in the political forum or at the polls." *Id.* Indeed, the regularity with which climate change emerges in congressional debate, the increased relevance of environmental concerns in national political campaigns, and the rapid speed at which states have adopted various climate-related measures, *see generally* Barry G. Rabe, *Statehouse and Greenhouse: The Emerging Politics of American Climate Change Policy* (2004), amply demonstrate that the political process is fully capable of adopting climate policies if and when the public demands such action.

B. Petitioners Have Not Suffered Any Injury-in-Fact That Is *Both* Actual Or Imminent *And* Concrete And Particularized

Injury-in-fact is an essential component of Article III standing. The injury-in-fact requirement "ensures that the courts will more properly remain concerned with tasks that are, in Madison's words, 'of a Judiciary Nature,'" Roberts, *Article III Limits on Statutory Standing*, 42 Duke L.J. at 1232 (quoting James Madison, 2 *Records of the Federal Convention of 1787*, 430 (M. Farrand ed., 1966)). As John Marshall noted in *Marbury v. Madison*, "the province of the court is, solely, to decide on the rights of individuals," 5 U.S. (1 Cranch) 137, 170 (1803), not to vindicate the public interest in environmental protection or a suitably stable climate. *See Lujan*, 504 U.S. at 576-77.

In order to have standing, petitioners must allege an injury-in-fact that is *both* "actual or imminent" *and* "concrete and particularized." *Lujan*, 504 U.S. at 561; *Whitmore v. Arkansas*, 495 U.S. 149, 155 (1990) ("injury, we have emphasized repeatedly, must be concrete in both a qualitative and temporal sense"). The injuries petitioners allege cannot satisfy both prongs of the injury-in-fact requirement, if they can satisfy either. Insofar as petitioners allege harms that are "actual or imminent," the injuries are suffered by the public at large, and are too generalized to be the sort of individualized and particularized harm necessary for standing. The converse is also true. Insofar as petitioners have sought to allege specific harms that are particular to them, the injuries alleged are too remote and distant in time to satisfy the "actual or imminent" requirement.

To be "actual or imminent," the injury must be "palpable," *Gladstone, Realtors v. Village of Bellwood*, 441 U.S. 91, 100 (1979), "certainly impending," *Babbitt v. United Farm Workers*, 442 U.S. 289, 298 (1979), or "real

and immediate." *City of Los Angeles v. Lyons*, 461 U.S. 95, 101-02 (1983). Allegations of a far off injury at a much later date are too speculative to suffice. "Although 'imminence' is concededly a somewhat elastic concept, it cannot be stretched beyond its purpose, which is to ensure that the alleged injury is not too speculative for Article III purposes—that the injury is *certainly* impending." *Lujan*, 504 U.S. at 564 n.2 (quotations omitted); *id.* at 579 (Kennedy, J., concurring); *see also Whitmore*, 495 U.S. at 158 ("Allegations of possible future injury do not satisfy the requirements of Art. III. A threatened injury must be 'certainly impending' to constitute injury in fact") (citations omitted); *Lyons*, 461 U.S. at 101-02 ("The plaintiff must show that he has sustained or is immediately in danger of sustaining some direct injury.") (quotation omitted).

Insofar as litigants assert near-term effects—such as the minor perturbations in the climate that may have been detected, they are general, climatic effects that are not concrete and particularized to the petitioners. Insofar as petitioners allege current harm from changes in the global climate, they allege a grievance they "suffer[] in some indefinite way in common with people generally." *Frothingham v. Mellon*, 262 U.S. 447, 448 (1923). Current changes in the global climate are felt by all U.S. citizens—indeed by all citizens of the world. They are not particular to any one of the petitioners here, nor can they be. Such generalized grievances are insufficient to establish injury-in-fact. *See Cuno*, 126 S. Ct. at 1862.

Petitioners' reliance upon scientific evidence demonstrating an anthropogenic contribution to climate change is to no avail. Indeed, this Court need not question petitioners' presentation of the current state of climate science to conclude that petitioners lack standing. "The relevant showing for purposes of Article III standing . . . is not injury to the environment, but injury *to the plaintiff*."

Friends of the Earth, Inc. v. Laidlaw Environmental Services, Inc., 528 U.S. 167, 181 (2000) (emphasis added). Thus claims about current or projected climatic changes are not, by themselves, sufficient to confer standing upon the petitioners. Article III standing still requires that petitioners demonstrate "that the action injures [them] in a concrete and personal way." *Lujan*, 504 U.S. at 581 (Kennedy, J., concurring). They must show that they, in particular, are among the injured—that the injuries are theirs, not simply a consequence of generalized impacts on the global climate as an undifferentiated whole.

Insofar the petitioners have sought to allege harms that are particular to them—specific, localized effects such as the Commonwealth of Massachusetts's fear of future property loss due to an eventual rise in sea levels over the next century, *see Massachusetts v. EPA*, 415 F.3d 50, 65 (D.C. Cir. 2005) (Tatel, J., dissenting)—the harms alleged are too remote in the future to satisfy the actual or imminent requirement. Even the best predictions of what may transpire in the earth's climate in the year 2050 or 2100 are too speculative and remote to fulfill the requirement that alleged injuries are "actual or imminent" "Allegations of possible future injury do not satisfy the requirements of Art. III." *Whitmore*, 495 U.S. at 158. Unlike claims of an immediate environmental impact, these allegations rely upon many variables, including but not limited to estimates of future greenhouse gas emissions, climatic feedback mechanisms, and other exogenous variables, that may change dramatically in the years to come. *See, e.g.*, National Academy of Sciences/National Research Council, *Climate Change Science: An Analysis of Some Key Questions* 2, 18 (2001) (noting that estimates of future warming and attendant consequences are sensitive to assumptions about a wide range of variables), J.A. at 152, 195. This makes the petitioners' claims too speculative to satisfy the injury requirement.

The potential seriousness of climate change does not obviate petitioners' obligation to demonstrate that they meet the requirements of Article III standing. The gravity of the harm alleged does not alter the analysis of injury. Even where the injury alleged is "one of the most serious injuries recognized in our legal system," this Court has recognized its obligation to ensure that the plaintiffs completely satisfy the requirements of Article III, as "the federal judiciary may not redress [any injury] unless standing requirements are met." *Allen*, 468 U.S. at 756-57.

If this Court has adhered to its constitutional obligations when grievous constitutional harms have been alleged, there is no basis for any less commitment to such principles here. Indeed, if "environmental concerns provide no reason to disregard limits in the statutory text," *Rapanos v. United States*, 126 S. Ct. 2208, 2247 (2006) (Kennedy, J. concurring in the judgment); *id.* at 2228 (plurality opinion of Scalia, J.), then such concerns clearly provide no reason to disregard the jurisdictional limitations imposed by Article III. *See also Whitmore*, 495 U.S. at 161 ("It is not for this Court to employ untethered notions of what might be good public policy to expand our jurisdiction in an appealing case."). Under well established standards for Article III standing, petitioners cannot establish that they have suffered an injury-in-fact.

C. Petitioners' Alleged Injuries Are Not Redressable By A Favorable Ruling From This Or Any Other Court

It is not enough to establish standing that a petitioner demonstrate an "injury-in-fact." In addition, petitioners "must allege personal injury fairly traceable to the defendant's allegedly unlawful conduct and likely to be redressed by the requested relief." *Allen*, 468 U.S. at 751. As this Court explained in *Steel Co. v. Citizens for a Better Environment*, "[r]elief that does not remedy the injury

suffered cannot bootstrap a plaintiff into federal court; that is the very essence of the redressability requirement." 523 U.S. at 107. This, too, is a burden petitioners cannot meet.

The redressability of petitioners' alleged injuries depends upon claims that various third parties not subject to this litigation will take independent actions in coming years and decades to mitigate the harms they allege will result from climate change. Whereas in *Lujan* the redressability of the plaintiffs' claims depended upon the compliance of another agency within the federal government, here redressability is contingent upon the future actions of foreign governments, private firms, and the market for automotive technologies. Whether or not, as the dissent below contends, there is "a basis for concluding that other countries would come to mandate technology developed in response to U.S. regulation," *Massachusetts v. EPA*, 415 F.3d at 66 (Tatel, J., dissenting), the unconstrained, voluntary actions of third parties at some indefinite point in the future cannot serve to satisfy the redressability requirement of Article III. Such claims are "entirely conjectural." *Lujan*, 504 U.S. at 571. Petitioners' experts may have "no doubt" that foreign governments "would gradually be mandated by other countries around the world," Decl. of Michael P. Walsh ¶ 10, J.A. at 244. Nonetheless, whatever the likelihood of such future actions, they remain purely speculative for the purposes of satisfying the requirements of Article III. "This is precisely the sort of conjecture [this Court] may not entertain in assessing standing." *Cuno*, 126 S. Ct. at 1866.

The speculative nature of petitioners' claim is further demonstrated by the fact that even were petitioners able to demonstrate standing and establish that the EPA had the authority to regulate motor vehicle emissions of greenhouse gases, there is still no basis to conclude that a favorable court judgment would provide petitioners with any meaningful relief whatsoever. According to petitioners, the U.S.

transportation sector represented approximately 7 percent of global emissions during the 1990s. Decl. of M. MacCracken ¶ 30, J.A. at 238. Even assuming that the entirety of these emissions were subject to regulation by the EPA under Section 202 of the Clean Air Act, 42 U.S.C. § 7521, and that the EPA were to impose dramatic curbs on such emissions, this would not redress petitioners' alleged injuries in any meaningful respect. Indeed, even were the EPA to eliminate *all* greenhouse gas emissions from the U.S. transportation sector (which includes many sources of emissions beyond the passenger vehicles subject to regulation under Clean Air Act Section 202), this would not alleviate the harms petitioners allege they will suffer from climate change.

Dr. T.M.L. Wigley of the National Center for Atmospheric Research demonstrated that were all developed nations—those on "Annex B"—to fully comply with the greenhouse gas emission reduction targets established by the Kyoto Protocol, and maintain such controls through 2100, this would only change the predicted future warming by 0.15°C by 2100, and projections in sea-level rise would be modified by only 2.5 centimeters. T.M.L. Wigley, *The Kyoto Protocol: CO2, CH4 and Climate Implications*, 25 Geophysical Research Letters 2285 (1998). Yet, the reductions modeled in the Wigley study are several times greater than the complete elimination of all greenhouse gas emissions from the U.S. transportation sector, let alone any realistic estimate of emission reductions to be achieved from the imposition of regulatory controls over time, particularly given "the lead time needed to economically introduce changes into the motor vehicle fleet." Decl. of M. MacCracken ¶ 32, J.A. at 239.

D. The Alternative Theories Of Standing Put Forward By State *Amici* Are Equally Unavailing

State *amici* forward an additional basis for standing that is equally unavailing. Specifically, state *amici* claim that

states have standing because their efforts to address greenhouse gas emissions "could be and indeed have been challenged as preempted based on the EPA's decision" *not* to regulate. Brief of the States of Arizona, et al., in Support of Petitioners at 6. [2] State *amici* claim, in turn, that they are "harmed by the EPA's decision because it intrudes on their sovereignty by subjecting them to claims that they are prevented from regulating motor vehicle emissions as the CAA permits." *Id.* at 13. Contrary to state *amici*'s contentions, this is not a sufficient basis for standing.

States' vulnerability to claims of federal preemption is not only speculative, but is also wholly independent of the EPA's authority to regulate greenhouse gas emissions under Section 202(a) of the Clean Air Act, 42 U.S.C. § 7521(a). While some may claim that the EPA's lack of authority under Section 202(a) is a basis for preempting states from adopting emission standards of their own, states would remain subject to colorable preemption claims even were the EPA to assert the authority to regulate greenhouse gases under the Clean Air Act. Put simply, "[t]here is no amount of evidence that potentially could establish that [state *amici*'s] asserted future [preemption] injury is [either] 'real and immediate,'" *Whitmore*, 495 U.S. at 160, fairly traceable to the EPA's decision, or redressable.

First, state *amici* cannot demonstrate that the EPA's lack of authority to regulate vehicle emissions of greenhouse gases will lead to the preemption of state efforts to adopt such controls, as there are many alternative bases upon which courts could conclude that state regulation of

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[2] *See also id.* at 13 ("In particular, plaintiffs claim that if the EPA is without authority to regulate emissions of pollutants associated with climate change from motor vehicles, California likewise cannot regulate them. The EPA's decision therefore has and will continue to lead to the concrete claims of preemption against States with respect to their efforts to deal with emissions related to climate change.").

greenhouse gases is preempted. Not only may courts conclude that state efforts to regulate motor vehicle emissions of greenhouse gases are preempted by Section 209(a), 42 U.S.C. § 7543(a), irrespective of EPA's authority under the Clean Air Act, but other provisions of federal law, such as the Energy Policy Conservation Act, 49 U.S.C. §§ 32901-32919, may be sufficient to preempt state efforts. *See, e.g., id.* § 32919 (preempting state laws "related to fuel economy standards"). "It is just not possible for a litigant to prove in advance that the judicial system will lead to any particular result in his case." *Whitmore*, 495 U.S. at 159-60.

Even were this Court to conclude that EPA had the authority to regulate greenhouse gas emissions under Section 202(a) of the Clean Air Act, and EPA were to adopt such emission standards, there is no guarantee that the state *amici* would be free to adopt regulations governing the emission of greenhouse gases from motor vehicles. Among other things, Clean Air Act Section 209(a), 42 U.S.C. § 7543(a), prohibits states from adopting or attempting to enforce "any standard relating to the control of emissions from new motor vehicles" that are subject to regulation under Section 202. State efforts to regulate vehicular emissions would still be contingent upon the approval of a waiver for the state of California to adopt such regulations under Clean Air Act Section 209(b)(1), 42 U.S.C. § 7543(b)(1), *and* a determination that the ability of states other than California to adopt equivalent vehicle emission controls under Clean Air Act Section 177, 42 U.S.C. § 7507, extends to emissions that are not subject to regulation under the Clean Air Act's nonattainment provisions. Thus, states' ability to regulate automotive emissions would remain wholly speculative.

State *amici* argue that "because the EPA has refused to regulate emissions of pollutants associated with climate change from motor vehicles, California's standards are the only ones available to the States that desire to regulate such

emissions." Brief of the States of Arizona, et al., in Support of Petitioners at 19. Yet this would be equally true were the EPA to regulate greenhouse gas emissions from motor vehicles. Under the Clean Air Act, states' only options with regard to the regulation of motor vehicle tailpipe emissions are to either accept existing federal standards or to adopt relevant standards adopted by the state of California. *See* 42 U.S.C. § 7507. This remains so irrespective of whether EPA has or exercises the authority to regulate tailpipe emissions of greenhouse gases.

Therefore, even assuming the claims of state *amici* describe an injury, the injury is neither fairly traceable to the EPA's alleged failure to regulate greenhouse gas emissions, nor can it satisfy the requirement of redressability. In either case, the arguments raised by state *amici* are too speculative to satisfy the requirements of Article III standing.

II. CONGRESS DID NOT DELEGATE AUTHORITY TO REGULATE GREENHOUSE GAS EMISSIONS TO THE EPA

Article I of the Constitution vests all legislative power in the Congress. "All legislative power herein granted shall be vested in a Congress . . ." U.S. Const. art. I, § 1. The EPA, like all federal agencies, has no inherent powers. "It is axiomatic that an administrative agency's power to promulgate legislative regulations is limited to the authority delegated by Congress." *Bowen v. Georgetown Univ. Hosp.*, 488 U.S. 204, 208 (1988). Before the EPA may impose rules on private individuals to control greenhouse gas emissions, Congress must make the decision that such rules are necessary and either enact such rules directly, or delegate such authority to the EPA with an "intelligible principle" to guide the agency's actions.

By ensuring that administrative agencies only exercise those powers delegated to them by the people's representatives, the delegation doctrine fosters democratic

accountability and safeguards liberty. "The delegation doctrine [was] developed to prevent Congress from forsaking its duties," *Loving v. United States*, 517 U.S. 748, 757 (1996), such as developing national climate change policy after legislative debate and in concert with the executive.

While this Court has been reluctant to apply the delegation doctrine with any force, it has consistently reaffirmed the bedrock constitutional notion that agencies have only those powers delegated to them by Congress. The Court has also interpreted statutes so as to avoid potential delegation problems, *see, e.g. Industrial Union Dept., AFL-CIO v. American Petroleum Institute*, 448 U.S. 607, 646 (1980), *National Cable Television Ass'n v. United States*, 415 U.S. 336, 340-41 (1974), or required the agency to construe a statute so as to avoid delegation concerns. *See AT&T Corp. v. Iowa Public Utilities Bd.*, 525 U.S. 366, 388-89 (1999). *See also* John F. Manning, *Textualism as a Nondelegation Doctrine*, 97 Colum. L. Rev. 673 (1997); Cass R. Sunstein, *Nondelegation Canons*, 67 U. Chi. L. Rev. 315 (2000).

Here the delegation doctrine serves as a background principle that requires the legislature and the executive, rather than unelected administrative agencies or the courts, to make policy decisions of national or global significance. The delegation doctrine ensures that "important choices of social policy are made by Congress, the branch of our Government most responsible to the popular will." *Industrial Union Dep't*, 448 U.S. at 685 (Rehnquist, J., concurring). As history demonstrates, the Framers believed that momentous policy choices should be made by the people's representatives. *See Ludecke v. Watkins*, 335 U.S. 160 (1948); *Cargo of the Brig Aurora v. United States*, 11 U.S. (7 Cranch) 382, 388-89 (1813); Thomas Jefferson, *Jefferson's Notes on the State of Virginia*, Query XIII 173 (Merrill D. Peterson ed., 1975) ("Our ancient laws expressly declare,

that those who are but delegates themselves shall not delegate to others powers which require judgment and integrity in their exercise"). *See generally* David Schoenbrod, *Power Without Responsibility: How Congress Abuses the People Through Delegation* (1993); Marci A. Hamilton, *Representation and Non-Delegation: Back to Basics*, 20 Cardozo L. Rev. 807 (1999). Indeed, "the most significant development in the law over the past thousand years is the principle that laws should be made not by a ruler or his ministers, or his appointed judges, but by representatives of the people." Antonin Scalia, *How Democracy Swept the World*, Wall St. J., Sept. 7, 1999, at A24.

When the Food and Drug Administration (FDA) sought to extend its regulatory authority to tobacco products, this Court found "reason to hesitate before concluding that Congress has intended such an implicit delegation." *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 159 (2000). The same caution is warranted here. Indeed, this presents more of an "extraordinary case" than did *FDA v. Brown & Williamson*, as it involves more than "assert[ing] jurisdiction to regulate an industry constituting a significant portion of the American economy." *Id.* at 159. Rather, this litigation seeks steps toward regulating American industry as a whole, not just emissions from motor vehicles. Greenhouse gases are the most ubiquitous by-product of modern industrial society, and the rationales petitioners have put forward to justify regulation under Section 202 of the Clean Air Act could well justify the regulation of other sources of greenhouse gases under other portions of the Act.

It is one thing to accept Congress's explicit decisions to engage in broad delegations of quasi-legislative authority to administrative agencies, as this Court has done. It is quite another to conjure a delegation of awesome regulatory authority from statutory provisions that were never intended

to be used for this purpose. Regulatory tools are delegated to agencies with specific language for specific purposes. *See* Henry P. Monaghan, Marbury *and the Administrative State*, 83 Colum. L. Rev. 1, 14 (1983) ("the universe of each agency is limited by the legislative specifications contained in its organic act."). Once granted, these tools are not free-ranging objects to be wielded as agencies, courts, or private litigants would like.

Under this Court's precedents, Congress clearly has the power to delegate responsibility to the EPA for the regulation of greenhouse gases, provided it articulates an "intelligible principle" to guide the EPA's hand, just as it has delegated responsibility for the regulation of ambient air pollutants, hazardous air pollutants, and ozone-depleting substances under the Clean Air Act. Yet Congress has not done so. Until such time as the legislature makes such an express delegation of authority, the EPA is without such power—irrespective of what interpretation various political administrations place on the existing language of the Clean Air Act. The decision whether to adopt controls on the emissions of greenhouse gases, whether from automobiles or any other source, is "quintessentially one of legislative policy," *Industrial Union Dep't*, 448 U.S. at 685 (Rehnquist, J., concurring), and therefore one that must be made by the legislature. "The responsibilities for assessing the wisdom of such policy choices and resolving the struggle between competing views of the public interest are not judicial ones." *Chevron USA, Inc. v. Natural Resources Defense Council*, 467 U.S. 837, 866 (1984).

Congress cannot be presumed to have delegated the discretionary authority to regulate the most ubiquitous by-product of modern industrial society through provisions clearly designed to address environmental problems of a different sort. As this court has observed, "we must be guided to a degree of common sense as to the manner in

which Congress is likely to delegate a policy decision of such economic and political magnitude to an administrative agency." *Brown & Williamson*, 529 U.S. at 133. Given the significance of climate change, and the unprecedented nature of the regulation petitioners seek, it is dubious that Congress would have sought to impose controls on greenhouse gas emissions in so indirect a fashion as alleged here. *See* John Manning, *The Nondelegation Doctrine as a Canon of Avoidance*, 2000 Sup. Ct. Rev. 223, 276-77 ("If Congress has addressed a subject, but has done so in a limited way, this fact itself may suggest that Congress has gone as far as it could, as far as the enacting coalition wished to, on the subject in question.").

Congress has repeatedly addressed climate change since 1978 without once giving any indication that it had delegated regulatory authority to the EPA over greenhouse gases. *See* National Climate Program Act of 1978, Pub. L. No. 95-367, 92 Stat. 601 (1978) ("an Act to establish a comprehensive and coordinated national climate policy and program"). Congress gave due consideration to concerns about climate change during the years preceding the 1990 Clean Air Act Amendments. The 1990 Amendments included a new subsection on ozone depletion and several provisions encouraging "non-regulatory" approaches to greenhouse gas emissions. Indeed, Congress considered and rejected an explicit proposal to regulate greenhouse gases. The amendments initially approved by the Senate Committee on Environment and Public Works included limits on automobile tailpipe emissions of carbon dioxide, yet this language was stricken before passage due to staunch opposition on many fronts. *See Control of Emissions from New Highway Vehicles and Engines*, 68 Fed. Reg. 52922, 59926-27 (Sept. 8, 2003). In the end, Congress told the EPA to study greenhouse gas emissions, not to regulate them. As summarized by one of the leading authorities on the Clean Air Act:

> EPA does not have any clear authority to regulate GHGs [greenhouse gases]. Given the extent of the congressional efforts to address the issues concerning GHGs and the absence of a credible mandate, there is little support for a claim that EPA has some latent power and obligation under the CAA to regulate these emissions.

Arnold W. Reitze, Jr., *Air Pollution Control Law: Compliance & Enforcement* 427 (2001).

Were this history not enough, several times since 1990 Congress has rejected the authorization of regulatory controls on greenhouse gases. In 1995, the Senate unanimously approved the so-called Byrd-Hagel resolution rejecting the Kyoto Protocol and stating that the U.S. will not act to control greenhouse gas emissions unless and until the rest of the world is willing to follow suit, S. 98, 105th Cong. (1997), and subsequently adopted numerous appropriations riders to prohibit the EPA from taking actions to implement the Protocol. *See* Pub. L. No. 105-276, 112 Stat. 2461, 2496 (1998); Pub. L. No. 106-74, 113 Stat. 1047, 1080 (1999); Pub. L. No. 106-377, 114 Stat. 1441, 1441A-41 (2000). Just last year, the Senate passed the so-called Bingaman-Domenici Resolution calling upon Congress to adopt measures to limit emissions of greenhouse gases. *See* 151 Cong. Rec. S7033 (June 22, 2005). If Congress had already delegated authority to regulate greenhouse gases to the EPA, such resolutions would be wholly unnecessary.

That the relevant provisions of the Clean Air Act are so poorly suited to the control of greenhouse gases is further evidence that Congress has not delegated such authority to the EPA, let alone provided an "intelligible principle" for the exercise of such authority. The clear intent of the Act when first enacted in 1967 and as subsequently amended in 1970, 1977, and 1990, is to control local and regional air pollution, such as soot and smog, not emissions such as carbon dioxide

that disperse throughout the global atmosphere. Indeed, the "heart" of the Act, as this Court has observed, is the set of provisions governing the creation and attainment of National Ambient Air Quality Standards (NAAQS) that localities are required to meet. *Train v. Natural Resources Defense Council*, 421 U.S. 60, 66 (1975). Under these provisions, states are required to develop implementation plans to ensure that all metropolitan areas meet the NAAQS. The goal is to ensure that the ambient air in every county meets a minimum threshold, and the structure is premised on the notion that each region is capable of enacting measures that will enable the air quality standard to be met. This framework is wholly incompatible with the regulation of greenhouse gases, for which measurements of local, ambient concentrations are meaningless. Yet, it is provisions designed to address this central concern of the Act and help states comply with the NAAQS such as Section 202(a), 42 U.S.C. § 7521(a), that petitioners now seek to invoke against climate change. *See* Reitze, *Air Pollution Control Law*, *supra*, at 419-21 (2001) (detailing history and purpose of Clean Air Act Section 202 and concluding that such history "does not support the use of §202(a)" for control of greenhouse gas emissions).

This Court has "refused to find implicit in ambiguous sections of the CAA" the authorization for regulatory actions that would typically be explicit. *Whitman v. American Trucking Ass'ns, Inc.*, 531 U.S. 457, 467 (2001). "Congress, we have held, does not alter the fundamental details of a regulatory scheme in vague terms or ancillary provisions—it does not, one might say, hide elephants in mouseholes." *Id.* at 468. The authority to regulate greenhouse gases—ubiquitous gases that are inevitably produced by the combustion of fossil fuels—is among the greatest regulatory undertakings ever contemplated in environmental law. *See Control of Emissions from New Highway Vehicles and Engines*, 68 Fed. Reg. 52922, 59928 (Sept. 8, 2003) ("It is hard to imagine any issue in the environmental area having

greater 'economic and political significance' than regulation of activities that might lead to global climate change."). As such, it is quite a large "elephant."

It is simply implausible that Congress would leave such a mammoth issue unaddressed in the text of the Clean Air Act, despite countless debates over climate change policy, had Congress sought to confer such regulatory authority to the EPA. *Brown & Williamson*, 529 U.S. at 160 ("We are confident that Congress could not have intended to delegate a decision of such economic and political significance to an agency in so cryptic a fashion."). As then-Judge Breyer observed, "Congress is more likely to have focused upon, and answered, major questions," such as whether to regulate an entire class of omnipresent emissions, while "leaving interstitial matters" for resolution by the agency during the "daily administration" of the statute. Stephen Breyer, *Judicial Review of Questions of Law and Policy*, 38 Admin. L. Rev. 363, 370 (1986).

CONCLUSION

Petitioners seek to drag courts into a complex and contentious policy question at the intersection of economics, environmental protection, international diplomacy, and distributive justice. This is an invitation this Court should not accept. If this nation is to adopt momentous measures to address the threat of climate change, that is a decision that must be made in the halls of Congress, and perhaps in the negotiation sessions of international conferences among states, not in this Court.

Respectfully submitted.

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IN THE

SUPREME COURT OF THE UNITED STATES

COMMONWEALTH OF MASSACHUSETTS, *et al.*,
Petitioners,

v.

U.S. ENVIRONMENTAL PROTECTION AGENCY, *et al.*,
Respondents.

On Writ of Certiorari to the
United States Court of Appeals
for the District of Columbia Circuit

AMICI CURIAE BRIEF OF CLIMATOLOGISTS AND SCIENTISTS SALLIE BALIUNAS, JOHN R. CHRISTY, CHRIS DE FREITAS, DAVID LEGATES, ANTHONY LUPO, PATRICK MICHAELS, JOEL SCHWARTZ, AND ROY W. SPENCER IN SUPPORT OF RESPONDENTS

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Cases

Massachusetts v. E.P.A., 415 F.3d 50 (D.C. Cir. 2005).....26

Statutes

Clean Air Act, 42 U.S.C. 7401, *et seq.* 4, 8, 20

Other Authorities

Arrhenius, *On the Influence of Carbonic Acid in the Air Upon the Temperature of the Ground*, 41 Phil. Transactions 237 (1896).....25

Bengtsson, et al., *Storm Tracks and Climate Change*, 14 J. Climate 3518 (2006).....17

Cabanes, et al., *Sea Level Rise During the Past 40 Years Determined from Satellite and In Situ Observations*, 294 Science 840 (2001).....19

Carbon Dioxide Information Analysis Center, *Atmospheric Carbon Dioxide Record from Mauna Loa* (2005).....11

Christy & Spencer, *Correcting Temperature Data Sets*, 310 Science 972 (2005).....23

Christy, et al., *Methodology and Results of Calculating Central California Surface Temperature Trends: Evidence of Human-Induced Climate Change?*, 19 J. Climate 548 (2006) 23

Comiso, *Arctic Warming Signals from Satellite Observations*, 61 Weather 70 (2006) 18

Covey, et al., *An Overview of Results from the Coupled Model Intercomparison Project*, 37 Global & Planetary Change 103 (2003) 12

Davis, et al., *Changing Heat-Related Mortality in the United States*, 111 Environ. Health Perspect. 1712 (2003).....21

Davis, et al., *Decadal Changes in Summer Mortality in U.S. Cities*, 47 Int'l J. Biometeorology 166 (2003).....21
Emanuel, *Response of Tropical Cyclone Activity to Climate Change: Theoretical Basis* (2004) 17
Gough, *Politicizing Science* (2003).....14
Hansen & Sato, *Trends of Measured Climate Forcing Agents*, 98 Proceedings of the National Academy of Sciences 14778 (2001) 15
Intergovernmental Panel on Climate Change, *Climate Change 2001: The Scientific Basis* (2001).....10, 21, 22
Knutson & Tuleya, *Impact of CO2-Induced Warming on Simulated Hurricane Intensity and Precipitation: Sensitivity to the Choice of Climate Model and Convective Parameterization*, 17 J. Climate 3477 (2004).....16, 17
Kunkel, *Temporal Variations of Extreme Precipitation Events in the United States: 1895-2000*, 30 Geophysical Res. Ltrs. 1900 (2003).....22
Ladurie, *Times of Feast, Times of Famine: A History of Climate Since the Year 1000* (1971).....25
Levitus, et al., *Warming of the World Ocean, 1955-2003*, 32 Geophysical Research Letters L 02604 (2005) 17
Lyman, et al., *Recent Cooling of the Upper Ocean*, 33 Geophysical Research Ltrs. L 18604 (2006).....17
Manabe & Strickler, *Thermal Equilibrium of the Atmosphere with a Convective Adjustment*, 21 J. Atmospheric Sciences 361 (1964) 9
Michaels, et al., *Comments on "Impacts of C02 Induced Warming on Simulated Hurricane Intensity and Precipitation: Sensitivity to the Choice of Climate Model and Convective Parameterization*, 18 J. Climate 5179 (2005). 16
National Institute on Aging, *The Future of Human Life Expectancy* (2006).....25
National Research Council, *Climate Change Science: An Analysis of Some Key Questions* (2001).....4, 6, 7
New, et al., *Precipitation Measures and Trends in the Twentieth Century*, 21 Int'l J. Climatology 1899 (2001) .22

Pielke, *Are There Trends in Hurricane Destruction?*, 438 Nature E11 (2005) 17
Polyakov, et al., *Trends and Variations in Arctic Climate Systems*, 83 EOS Trans. of Amer. Geophys. Union 547 (2002) 18
Raper & Braithwaite, *Low Sea-Level Projections from Mountain Glaciers and Ice Caps Under Global Warming*, 439 Nature 311 (2006) 19
Schlesinger & Jiang, *Simple Model Representation of Atmosphere- Ocean GCMs and Estimation of the Time Scale of C02-Induced Climate Change*, 3 J. Climate 1297 (1990) 12
Schlesinger & Jiang, *Simple Model Representation of Atmosphere-Ocean GCMs and Estimation of the Time Scale of C02-Induced Climate Change*, 3 J. of Climate 1297 (1990) 12
Serreze, et al., *Observational Evidence of Recent Change in the Northern High-Latitude Environment*, 46 Climatic Change 159 (2000) 18
Stephens, *Cloud Feedbacks in the Climate System: A Critical Review*, 18 J. Climate 237 (2005) 9
U.S. National Assessment (2000) 7
Wood & Overland, *Accounts from 19th-Century Canadian Arctic Explorers' Logs Reflect Present Climate Conditions*, 84 EOS Trans. of Amer. Geophys. Union 410 (2003) 18
World Almanac 2001 7

INTEREST OF THE AMICI CURIAE

Amici Curiae Sallie Baliunas, John Christy, Christopher de Freitas, David Legates, Anthony R. Lupo, Patrick Michaels, Joel Schwartz, and Roy Spencer are scientists involved in research and/or instruction in climate and related sciences at major universities, intellectual institutions, and federal laboratories. Collectively, they have authored hundreds of articles in the refereed scientific literature, books, book chapters, and other publications on climate and climate change.[1]

Sallie Baliunas is an astrophysicist who earned an A.M. and Ph.D. from Harvard University. Among her research interests are the solar influence on climate and terrestrial ecosystems and the magnetism of the sun and other stars. She has been awarded the Newton-Lacy-Pierce Prize of the American Astronomical Society and the Bok Prize of Harvard University.

John R. Christy is Professor of Atmospheric Science and Director of the Earth System Science Center at the University of Alabama in Huntsville. He received his B.A. in Mathematics from California State University, Fresno and M.S. and Ph.D. in Atmospheric Sciences from the University of Illinois. His research focuses on construction of climate datasets from satellite and in-situ observations. He received NASA's Medal for Exceptional Scientific Achievement and a Special Award from the American Meteorological Society of which he is a Fellow. He is Alabama's State

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[1] Through correspondence filed with the Clerk, the parties have granted consent to this brief; the Solicitor General has consented to this brief by letter, while the other parties' counsel have filed blanket consents to *amicus* briefs. No party or counsel for a party wrote, or contributed to, this brief, nor did anyone other than the *amici* or their counsel pay for or donate to the submission of this brief.

Climatologist and has served on numerous panels (e.g., American Geophysical Union, National Research Council, etc.) including lead authorship duties for the United Nations' Intergovernmental Panel on Climate Change in 2001 and the federal Climate Change Science Program SAP1.1 in 2006.

Chris de Freitas is an Associate Professor in the School of Geography, Geology and Environmental Science at the University of Auckland. He has Bachelors and Masters degrees from the University of Toronto and a Ph.D in climatology from the University of Queensland as a Commonwealth Scholar. At the University of Auckland he has been Deputy Dean of Science, Head of Science and Technology at the Tamaki Campus and Pro Vice Chancellor. He served 10 years as an editor of the international journal *Climate Research*. His research interests cover a variety of themes in environmental climatology.

David R. Legates is Associate Professor of Climatology and Director of the Center for Climatic Research at the University of Delaware in Newark. He also serves as the Delaware State Climatologist. He received his B.A. in Mathematics and Geography, his M.S. in Geography, and his Ph.D. in Climatology from the University of Delaware. He also has served on the faculty at the University of Oklahoma and Louisiana State University. His research focuses on statistical hydroclimatology, which includes precipitation, hydrology, and statistical methodology. In 2002, he won the Boeing Autometric Award for the best paper in image analysis and interpretation from the American Society for Photogrammetry and Remote Sensing.

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SUMMARY OF ARGUMENT

The *Brief of Amici Curiae Climate Scientists David Battisti, et al., in Support of Petitioners* ("CS Brief") is founded upon the unsupported notion that the net effect of increasing greenhouse gases on human health and welfare is negative. It argues that greenhouse gas emissions "may reasonably be anticipated to endanger public health or welfare," requiring "prompt regulatory action to restrain emissions of greenhouse gases under the Clean Air Act." (p. 10)

But the CS Brief makes no convincing demonstration of this because there is no comprehensive scientific or economic study in the professional literature that has come to this conclusion, factoring in the risks, costs, and benefits of regulation.

The CS Brief relies most heavily on a report from the National Academy of Sciences, *Climate Change Science: An Analysis of Some Key Questions*. By referring to "some" key questions, the title of that report prompts an inquiry into whether "other" key questions were not answered or

discussed. In fact, the core thesis of the CS Brief—that the net effect of current greenhouse gas emissions is harmful to human health and welfare—is not supported by the text of *Climate Change Science*, which explicitly states that the

> costs and risks involved are difficult to quantify at this point and are, in any case, beyond the scope of this brief report (p. 4, J.A. 161).

The mere existence of human-caused climate change itself would not compel regulation; rather, it is necessary to demonstrate that regulation will not cause more harm than good to human health and welfare. While regulation with incomplete data is common, regulation with no data is arbitrary and may even be harmful. In its denial of the petition for rulemaking on carbon dioxide emissions from automobiles, the EPA correctly noted the great "economic and political significance" (Fed. Reg. 52,922, September 8, 2003) of greenhouse gas regulation, compared to existing regulations for other chemicals and substances, and the EPA correctly emphasized the lack of comprehensive knowledge about the effects of prospective regulation. The claims in the CS Brief that harm from carbon dioxide emissions is "virtually certain" (p. 10), and that new studies support that certainty, are simply incorrect.

ARGUMENT

I. Contrary to the Climate Scientists' Amicus Brief, There Is Insufficient Evidence That Carbon Dioxide Emissions Will Endanger Public Health or Welfare

The 2001 National Academy of Sciences report *Climate Change Science: An Analysis of Some Key*

Questions (hereafter, *"Climate Change Science"*), the core document cited by the Climate Scientists, unequivocally states our lack of comprehensive knowledge of the overall effects of human induced climate change:

> The costs and risks involved are difficult to quantify at this point and are, in any case, beyond the scope of this brief report (p. 4, J.A. 161).

Needless to say, this is the "key" question concerning climate change. Prospective individual positive and negative effects can be cited (for example, longer growing seasons vs. possible increases in agricultural pests), but a comprehensive analysis of the risks and benefits of both climate change and regulation (or lack thereof) simply does not exist. (With respect to the latter, see pp. 24-25 below.)

Climate Change Science summarizes the risk factors associated with elevated concentrations of atmospheric carbon dioxide:

> In summary, critical factors in defining a "safe" concentration depend upon the nature and level of societal vulnerability, the degree of risk aversion, ability and/or costs of adaptation and/or mitigation, and the valuation of ecosystems, as well as on the sensitivity of the Earth system to climate change (p. 21, J.A. 205).

Contrast this to the assessment of *Climate Change Science* made in the CS Brief:

> *Climate Change Science* assessed the science holistically and concluded that human-caused climate change had most likely already occurred and that serious future damage was highly probable (p. 21).

One source of uncertainty is that *Climate Change Science* repeatedly references the 2001 *U.S. National Assessment* of climate change, which projects, in its own words, two "very different" globally-averaged temperature increases (2.8 and 4.4°C) for 2100 based upon two "well-regarded models."[2] As is shown below, both of these models are based on assumptions of increases in carbon dioxide concentration that are well-known to be substantial overestimates of what is occurring and what has occurred in recent decades. As a result, these models produce erroneous overprojections of warming for at least the next half-century.

A far better estimate of future warming comes by reconciling climate model projections of the future with real-life data—that is, with the known historical behavior of climate as greenhouse gases have increased. This is because models are more plausible when they are in agreement with actual observations. As is shown below, the expected warming from such increases then becomes 1.8°C for this century, which is clearly below the low end of the *National Assessment's* range.

For comparative purposes, the net warming of the 20th century (See Figure 1) is approximately 0.8°C, or slightly less than half this value. That warming was clearly accompanied by a dramatic improvement in health and welfare, with life expectancies rising more than 60 percent.[3]

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[2] *See* National Assessment Synthesis Team, *Climate Change Impacts on the United States* 17 (2000) ("U.S. National Assessment") (figures given in Fahrenheit; converted to Celsius above).

[3] *See World Almanac 2001* ("Years of Life Expected at Birth, 1900-98," pg. 874); *see also* data from National Center for Health Statistics, http://www.cdc.gov/nchs/data/hus/hus05.pdf (pg. 65, figure 26).

and per-capita income, in constant dollars, increasing tenfold in the United States.[4]

Given that 1.8°C is a more plausible projection of warming over the next century, because it reconciles models and observations, it is difficult to defend the notion that carbon dioxide is a pollutant requiring immediate remediation under the Clean Air Act.

In addition, as shown below, the CS Brief mischaracterizes the effects of greenhouse gases on global temperatures, on hurricanes, on melting of ice and sea-level rise, and on health and mortality. Because of these facts, and the lack of any comprehensive assessment of the risks and benefits of greenhouse gas emissions and regulation, it is simply impossible to conclude that the net effect of greenhouse gases is an endangerment of health and welfare.

II. Contrary to the Climate Scientists' Brief, the Net Effects of Increasing Atmospheric Carbon Dioxide Are Not Known

The CS Brief correctly states that "the basic physics underlying the greenhouse effect is firmly established" (p. 11). There is no controversy about this, and the climatologists and scientists involved in the instant brief do not dispute it. But the CS Brief's subsequent statement, that "greater atmospheric concentrations of greenhouse gases, all other things being equal, cause higher temperatures at the surface" (p. 11), is simply meaningless because in a complicated system such as the atmosphere, all things are *never* equal. It implies that greenhouse gases have an

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[4] *See CIA World Fact Book, 2006* (2005 data) (https://www.cia.gov/cia/publications/factbook/geos/us.html); www.nationmaster.com/graph/eco_gdp_per_cap_in_190-economy-gdp-per-capita-1900DATA (1900 data).

unlimited ability to warm the surface, with no substantial natural negative feedback mechanisms, such as enhancement of low-level clouds that could occur because of greenhouse gases,[5] to moderate this warming. In fact, these mechanisms exist, their effect is highly significant, and some of them may even be strengthened by higher greenhouse gas concentrations.

While greenhouse gases warm the surface of the earth, this surface warming is strongly limited by weather processes such as evaporation and precipitation, convection (the vertical movement of heat away from the surface, as in a thunderstorm), and cloud formation. These weather processes cool the surface temperature about 40°C below where the natural greenhouse effect alone would place it.[6]

The notion that greenhouse gas emissions, mainly of carbon dioxide, contribute to climate change is not in dispute. But the CS Brief goes on to claim that "human activities likely caused *most* of the approximately 0.6°C rise over the 20th century" (p. 12, emphasis added). This is scientifically wrong. Viewing the temperature history of NASA's Goddard Institute for Space Science (headed by James E. Hansen, perhaps the most prominent of the CS Brief *amici*), it is apparent that there were two distinct warmings in the 20th century, with a slight cooling interval between them (Figure 1).

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[5] G.L. Stephens, *Cloud Feedbacks in the Climate System: A Critical Review*, 18 J. Climate 237, 240 (2005)

[6] *See, e.g.*, S. Manabe & R.F. Strickler, *Thermal Equilibrium of the Atmosphere with a Convective Adjustment*, 21 J. Atmospheric Sciences 361, 380-81 (1964).

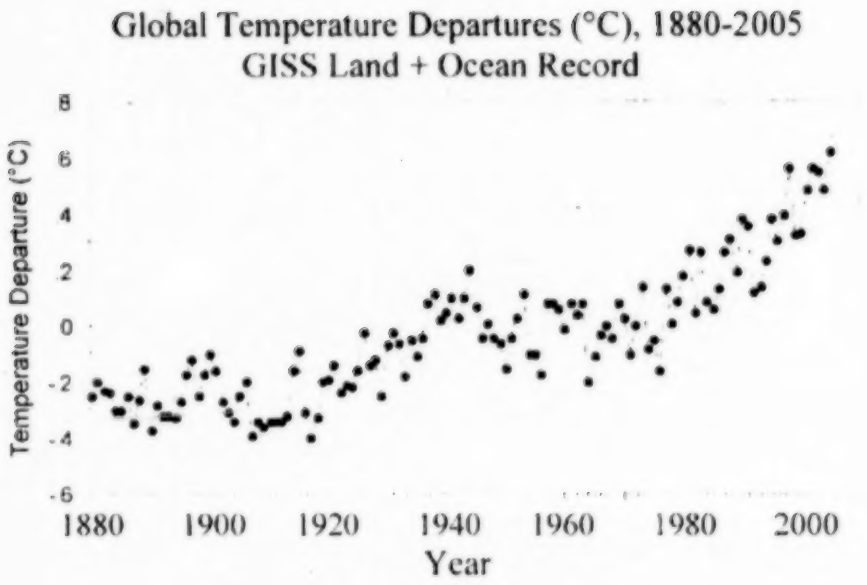

Figure 1. Global Surface Temperature History, NASA Goddard Institute for Space Studies.

The first warming, from 1916 through 1945, occurred before the vast majority of carbon dioxide emissions and therefore is *not* significantly related to greenhouse gas changes. The subsequent cooling occurred during a time of increasing carbon dioxide emissions, compared to the earlier period. The second warming, which began in 1976, is quite possibly a greenhouse warming because of its geographic distribution.[7] The two warming periods were statistically indistinguishable from each other in terms of the amount of warming.[8]

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[7] Intergovernmental Panel on Climate Change, *Climate Change 2001: The Scientific Basis* 10 (2001).

[8] The first warming, from 1916 through 1945, was .150 +/- .014°C/decade (one standard deviation) or a probable range of .136 to .164°C/decade, while the second warming, which began in 1976, was .179 +/- .022°C/decade, or a range of .157 to .201°C/decade. The overlap makes them statistically indistinguishable in magnitude. Temperature data from NASA Goddard Institute for Space Studies (http://data.giss.nasa.gov./gistemp/graphs/Fig. A2.txt).

As shown below, computer models predicting future warming must overestimate warming, because they generally use an incorrect increase in carbon dioxide concentration of 1% per year. The actual increases in the last three decades, based upon the measurement standard at the Mauna Loa Observatory (the most highly cited global carbon dioxide record) *are less than half of this.*[9] Because the models respond quite linearly to changes in atmospheric carbon dioxide with respect to percent (i.e., a 1% change in concentration per year produces roughly twice as much warming as 0.5%), their resulting forecasts must be overestimates.

Covey et al. (2003) have commented upon this rather bizarre approach of knowingly using assumptions at odds with observations:

> The rate of radiative forcing increase implied by 1% per year increasing CO2 is nearly a factor of two greater than the actual anthropogenic forcing in recent decades, even if non-CO2 greenhouse gases are added in as part of an "equivalent CO2 forcing" and anthropogenic aerosols are ignored (see, e.g., Figure 3 of Hansen et al. 1997). Thus the [models' assumed] increasing-CO2 scenario cannot be considered as realistic for purposes of comparing model-predicted and observed climate changes during the past century.

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[9] *See Monthly Average Carbon Dioxide Concentration* (May 19, 2005) (http://cdiac.ornl.gov/trends/co2/graphics/mlo145e_thrudc04.pdf) (data from Mauna Loa Observatory, Hawaii, showing an increase of less than half of a percent per year in carbon dioxide levels); Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, *Atmospheric Carbon Dioxide Record from Mauna Loa* (2005), available at http://cdiac.ornl.gov/trends/co2/sio-mlo.htm (carbon dioxide levels have increased only about 19.4% over the 45 year period from 1959 to 2004. The actual increase during the period was 0.41% per year).

> It is also not a good estimate of future anthropogenic climate forcing, except perhaps as an extreme case in which the world accelerates its consumption of fossil fuels while reducing its production of anthropogenic aerosols.[10,11]

In contrast to this sole reliance on models to the exclusion of observed behavior, a far more logical estimate of future warming comes from reconciling model projections for the future with the known historical behavior of climate as greenhouse gas increases warmed the surface in the past. The result is indeed a constant-rate warming, as predicted by the models, and the rate is 1.8°C/century. That rate, based on actual observations, is shown by the "observed trend" line in Figure 2.

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[10] C.K. Covey et al., *An Overview of Results from the Coupled Model Intercomparison Project*, 37 Global & Planetary Change 103, 104 (2003). Several "Coupled Model Intercomparision Projects" ("CMIP") have been undertaken to evaluate future projections under common conditions. *See id.* The mean warming extrapolated to 100 years is 2.3°C. However, these are run with a 1% per year increase in atmospheric carbon dioxide concentration, which clearly must overestimate warming. The increases in the previous three decades (ending in 2004) have been .49, .42, and .43 % per year, respectively. *See* Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, *Atmospheric CO2 Concentrations* (http://cdiac.ornl.gov/ftp/trends/co2/maunaloa.co2) (May 2005). Because of the long inertia of the climate system (noted by the CS Brief), these overestimates of warming must be accumulating and propagating in the intercompared models through at least 2050. (This inertia was estimated at about 60 years in Schlesinger & Jiang, *Simple Model Representation of Atmosphere-Ocean GCMs and Estimation of the Time Scale of C02-Induced Climate Change*, 3 J. Climate 1297, 1297 (1990)). Because the change in atmospheric concentration shows no evidence for an imminent doubling from its rate for the last three decades, this error very likely continues beyond even 2050.

[11] The two models in the *National Assessment* are included in the CMIP studies. Given their erroneous carbon dioxide increase, they are obviously predicting more warming than will occur through 2050. Thus, they continue the error noted in footnote 10.

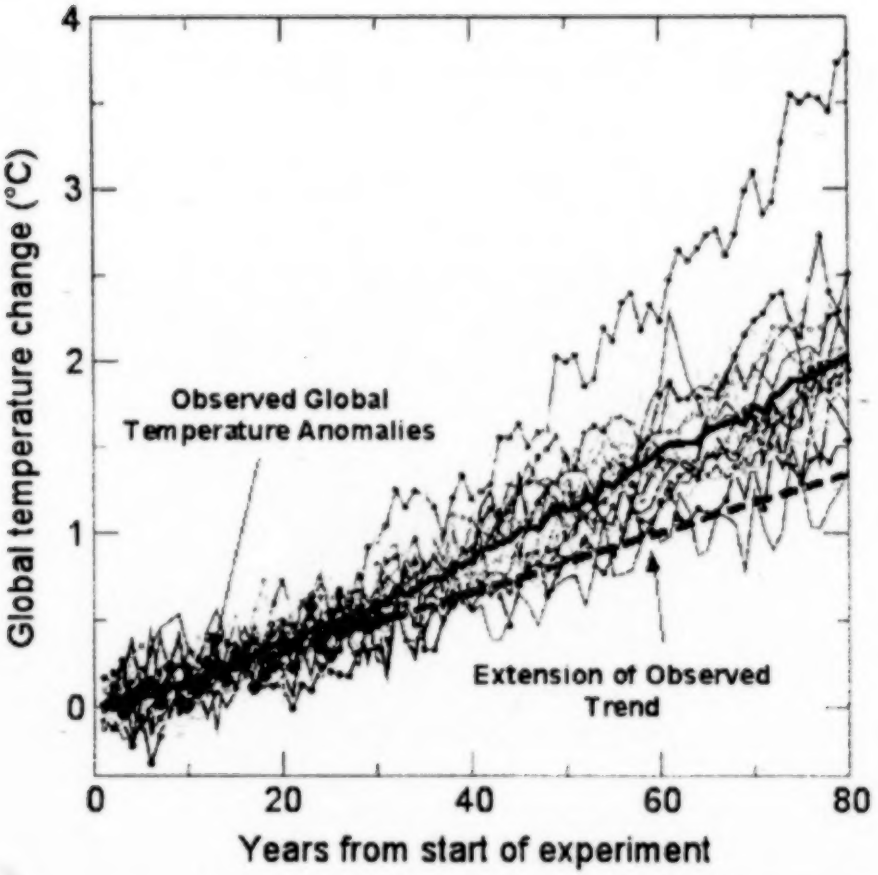

Figure 2. A Typical Model Intercomparision. The spaghetti-like lines are produced by the various climate models.[12] The solid line is the average of the models, which is essentially a constant rate of warming. But this is likely to be an overestimate because the rate of carbon dioxide increase in the models is unrealistically high. The observed warming (dashed line) is also a constant rate, which allows a realistic estimate of future warming (1.8°C to 2100), unless the ensemble behavior of all of these models, projecting constant warming, is wrong. Original

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[12] The models include ARPEGE/OPA2, BMRCa, CCSR/NIES, CCSR/NIES2, CGCM1, CSRIO Mk2, CSM 1.0, DOE PCM, ECHAM3/LSG, ECHAM4/OPYC, GFDL_R15_a, GFDL_R30_c, GISS2, GOALS, HadCM2, HadCM3, IPSL-CM2, MRI1, and MRI2.

figure from *Climate Research*, Vol. 32, p.7 (2006), with circles added in to show observed warming since 1975. Observed data from Intergovernmental Panel on Climate Change (www.cru.uea.ac.uk/cru/data/temperature).

This is far lower than the 2.8 and 4.4°C estimates in the *National Assessment*, which itself is the primary reference in *Climate Change Science*.[13]

This process of reconciling models with observed data is similar to what operational weather forecasters do almost every day. As with long-term climate models, short-term weather models often differ in their predictions. The forecaster "looks out the window" by selecting the model that has performed best in the last few days, or in the last similar forecasting situations. Similarly, climatologists can do this by seeing which models are producing a warming rate that is most consistent with reality (subject to the caveat, noted above at fn. 9-11, that the intercompared models *must* overestimate warming because of the wrong carbon dioxide input).

Interestingly, this warming rate of 1.8°C per century is practically the same as the value calculated by CS Brief

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[13] By relying heavily on this document, both the CS brief and *Climate Change Science* run afoul of the most basic tenet of science: that hypotheses (i.e. models) must be consistent with fact. One of us (Michaels) reviewed the *National Assessment* and determined that both of the models used could simulate observed temperature changes as atmospheric carbon dioxide increased no better than a table of random numbers. This failure was noted by a senior member of the *National Assessment* team, but publication went forward anyway. *See* Michaels, *Science or Political Science?* 184-88 (2003), *in* M. Gough, *Politicizing Science* 171-92 (2003). As the web version of the *National Assessment* prominently notes, this document was "not subjected to OSTP's Information Quality Act Guidelines." (available at http://www.usgcrp.gov/usgcrp/Library/nationalassessment/overview.htm)

scientist *Amicus*, James Hansen. In the 2001 *Proceedings of the National Academy of Sciences*, he wrote:

> Future global warming can be predicted much more accurately than is generally realized...we predict additional warming in the next 50 years of 3/4°C +/- 1/4°C, a warming rate of 0.15°C +/- 0.05° per decade).[14]

In making this calculation, Hansen made clear his assumption that carbon dioxide increases would continue below the consensus range of the IPCC, a fact noted in *Climate Change Science*[15] which, as detailed above, relied on models that clearly overestimate increases in atmospheric carbon dioxide. Clearly, in his own writings, this CS Brief scientist differs from both his fellow *Amici* and the National Academy's *Climate Change Science*.

III. The Climate Scientists' Brief Misstates the Effects of Greenhouse Gases on Hurricanes, Sea Level, Air Quality and Other Climate Factors

The CS Brief argues that changes in hurricanes, sea level, air quality, and other climate factors that they anticipate will be affected by carbon dioxide emissions will

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[14] J.E. Hansen & M. Sato, *Trends of Measured Climate Forcing Agents*, 98 Proceedings of the National Academy of Sciences 14778, 14782 (2001). In making this calculation, Hansen assumed that atmospheric concentrations of methane (which is several times more potent, in terms of temperature effect, than carbon dioxide) would continue to increase at a slowing rate, and then decline. This trend began approximately 20 years ago and ***was completely unanticipated by the climate research community***.

[15] "The increase of global fossil fuel carbon dioxide emissions in the past decade has averaged 0.6% per year, which is somewhat below the range of IPCC scenarios." *Climate Change Science* at 19, J.A. 159.

have the net effect of "endangering human health and welfare." CS Brief at 10.

Hurricanes

The CS Brief predicts a "likely increase in hurricane intensity" (p. 13). In fact, there is no consensus in the current refereed literature that this will occur, or, if it does, whether a change in intensity will even be detectable, given the large year-to-year variation in the natural hurricane climatology.[16]

The most prominent publication in recent years on this subject was by Knutson and Tuleya, in which they projected a 6% increase in maximum surface winds in hurricanes by the year 2080. Despite this projected increase, the authors wrote that "CO2-induced tropical cyclone intensity changes are unlikely to be detectable in historical observations and will probably not be detectable for decades to come."[17] Subsequently, Michaels et al. noted that this simulation overestimated the relationship between warming oceans and strong storm intensity by a factor of five.[18]

The most recent refereed publication on hurricanes is another computer simulation by Bengtsson, et al. They wrote that in their model, projected warming of "between 2

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[16] The consensus view is summarized by the Intergovernmental Panel on Climate Change as follows: "Changes in tropical and extra-tropical storm intensity and frequency are dominated by inter-decadal to multi-decadal variations, with no significant trends over the 20th century evident." IPCC, *Climate Change 2001: The Scientific Basis* 104 (2001).

[17] T.R. Knutson & R.E. Tuleya, *Impact of CO2-Induced Warming on Simulated Hurricane Intensity and Precipitation: Sensitivity to the Choice of Climate Model and Convective Parameterization*, 17 J. Climate 3477, 3493 (2004).

[18] P.J. Michaels, et al., *Comments on "Impacts of C02 Induced Warming on Simulated Hurricane Intensity and Precipitation: Sensitivity to the Choice of Climate Model and Convective Parameterization*, 18 J. Climate 5179, 5181 (2005).

and 4°C *has not had any influence on the numbers and intensities of the more powerful tropical storms*" (italics in original).[19]

If current projections of tropical ocean warming of 2-4°F are correct (which itself is debatable), then hurricanes may end up being about 5% stronger by 2100.[20] But the net effect of such changes would be dwarfed by natural cycles of hurricane activity, as well as by huge population and property value increases along the coast.[21]

Climate Change Science itself predates these findings by several years. Moreover, these findings are also absent from the CS Brief, even though it purports to discuss recent developments. *See* CS Brief at 16-17.

Ocean Warming, Arctic Ice, and Sea Level Rise

As evidence for warming, the CS Brief claims that mean ocean temperature rose by 0.05°C from 1955 to 1998. (p. 12). The actual increase is 0.037°C through 1998.[22] A more recent paper by Lyman, et al. shows that, in slightly more than two years, the world's oceans *actually lost 20% of the heat that they had gained from greenhouse gas changes in the last 50 years*.[23] There is no accepted explanation for

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[19] L. Bengtsson, et al., *Storm Tracks and Climate Change*, 19 J. of Climate 3518, 3534-35 (2006).

[20] Knutson & Tuleya, 17 J. Climate at 3493; K. Emanuel, *Response of Tropical Cyclone Activity to Climate Change: Theoretical Basis*, 399 (2004) in R.J. Murnane & K.-B. Liu, Eds., *Hurricanes and Typhoons – Past, Present, and Future* 395-407 (2004).

[21] R.A. Pielke, Jr., *Are There Trends in Hurricane Destruction?*, 438 Nature E11 (2005).

[22] S. Levitus, et al., *Warming of the World Ocean, 1955-2003*, 32 Geophysical Research Letters L 02604 (2005).

[23] J.M. Lyman, et al., *Recent Cooling of the Upper Ocean*, 33 Geophysical Research Letters L 18604 (2006).

this behavior. It, like other observed factors, indicates how much is still unknown in climate science. See also fn.14.

The CS Brief contends that Arctic ice decreased about 10-15% since records first became available. The citation in their brief (p.16) is Comiso, 2006, which describes the satellite-based history, which begins in 1979.[24] But as Serreze et al. and Polyakov et al. show, 1979 comes at the end of the second-coldest period in the Arctic in the 20th century, and the coldest since the 1920s.[25] This means that the decrease cited by the CS Brief *must have started at a maximum point for Arctic ice*. In short, a decrease in ice coverage was to be expected given that unrealistic baseline.

Wood and Overland examined the logs of Arctic exploration vessels in the 19th century to determine ice-edge minima. They found them to be very similar to current ice minima.[26] In short, by neglecting the historical perspective of the satellite data, the CS Brief gives an unjustifiably extreme perspective.[27]

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[24] J.C. Comiso, *Arctic Warming Signals from Satellite Observations*, 61 Weather 70-76 (2006).

[25] M.C. Serreze, et al., *Observational Evidence of Recent Change in the Northern High-Latitude Environment*, 46 Climatic Change 159, 167 (2000); I.V. Polyakov, et al., *Trends and Variations in Arctic Climate Systems*, 18 EOS Transactions of the American Geophysical Union 1.01878, p. 2 (2002).

[26] K. Wood & J.E. Overland, *Accounts from 19th-Century Canadian Arctic Explorers' Logs Reflect Present Climate Conditions*, 84 EOS Transactions of the American Geophysical Union 410, 410 (2003).

[27] While melting of the Arctic polar ice sheet would not raise sea levels because most of the ice sits on water (except Greenland), the Antarctic ice sheet mostly sits on the Antarctic continent. Significant melting there could therefore cause sea levels to rise. British Antarctic Survey temperature stations show a warming trend in the Antarctic Peninsula (much of which is north of the Antarctic Circle) and stable or cooler temperatures over most of the continent. *See* British Antarctic Survey web site, *Antarctic near-surface temperature trends, 1951-2004*. http://www.nerc-bas.ac.uk/public/icd/gjma/trends2004.col.pdf. "Antarctic

The CS Brief warns about "anticipated sea level rise" (p. 13) without any quantification. The 2001 IPCC report estimated a median sea level rise to 2100 of 19 inches. This, however, was based on inputs of carbon dioxide and other greenhouse gases that are now known to be erroneously high. (See Footnotes 9 & 10). Moreover, its predictions of ice loss from nonpolar sources are also now viewed as overestimated, as shown in Raper et al.[28]

Even if one accepts the 2001 report's estimate of a 19 inch rise over the next century, it is unknown whether this will, on net, harm human health and welfare. In fact, owing more to geological than climatological considerations, sea level rose at an even faster rate in the *previous* half-century (i.e., "naturally") along the U.S. east coast.[29] It has never been demonstrated that even this substantial change exerted a net harm on human health and welfare, given that coastal property values rose exponentially during this time. Obviously, people easily adapted to this rate of rise. In light of this history, one simply cannot assert that sea level rise results in a net endangerment of human welfare.

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near-surface temperature trends, 1951-2004." The Antarctic ice sheet has actually been thickening in the period from 1980 to 2004, according to Van de Berg, et al., *Reassessment of the Antarctic Surface Mass Balance Using Calibrated Output of a Regional Atmospheric Climate Model*, 111 Journal of Geophysical Research D11104 (2006).

[28] S.C.B. Raper & R. Braithwaite, *Low Sea-Level Projections from Mountain Glaciers and Ice Caps Under Global Warming*, 439 Nature 311, 311 (2006).

[29] C. Cabanes, et al., *Sea Level Rise During the Past 40 Years Determined from Satellite and In Situ Observations*, 294 Science 840, 841 (2001).

Air Quality

The CS Brief claims that "ground level ozone ("smog") levels (and associated risks to human health) are very likely to increase with temperature, especially in the Northeastern United States, where many areas currently experience ozone levels that exceed EPA Clean Air Act standards on hot summer days." (CS Brief at 14). This claim is incorrect, incomplete, and misleading.

During the last few decades, temperatures have risen but air pollution levels have declined—exactly the opposite of what the CS Brief claims should have happened. According to the National Climatic Data Center, the average summer (June-August) temperature in the U.S. rose about 0.5°F between 1980 and 2005.[30] However, during the same time period national-average 8-hour ozone levels dropped 20% and national 1-hour ozone levels dropped 28%.[31] Ozone exceedance days per year dropped even more than ozone levels. Over the same period, 8-hour ozone exceedances per year dropped 79% while 1-hour ozone exceedance days dropped 94%.[32] In other words, *higher temperatures have been accompanied by lower ozone levels.*

The CS Brief does not explain why we should expect the future to be the opposite of the past. Indeed, it does not even mention this ongoing improvement in air pollution levels.

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[30] National-average temperature data for June-August downloaded from the National Climatic Data Center, U.S. Department of Commerce: http://www.ncdc.noaa.gov/oa/climate/research/cag3/html.

[31] Average for continuously-monitored sites around the U.S. Data prepared by the U.S. Environmental Protection agency, downloaded from http://www.epa.gov/airtrends/ozone/html.

[32] Average for continuously-monitored sites around the U.S. Data prepared by the U.S. Environmental Protection Agency, available at http://www.epa.gov/ttn/airs/airsaqs/detaildata/downloadaqsdata.htm.

Extreme Weather Events

The CS Brief asserts that "rising temperatures are also likely to lead to increases in extreme weather events, especially heat waves, and associated heat-related deaths." (p. 14). But people living in warmer climates can better anticipate and adapt to those conditions, as shown by Davis et al. His research demonstrates that heat wave-related mortality is declining rapidly in North American cities, and that cities that are naturally the hottest have the lowest base-level heat-related mortality.[33] The reason is that where heat is more frequent, people adapt better to it.

The corollary is that where heat waves are rare, heat-related mortality is higher.[34] In North America, where almost all major cities are south of 60°N, virtually the entire urban population would, under scenarios of strong warming, experience progressively less heat-related mortality.

Moreover, cold-related mortality exceeds heat-related mortality, and it is not confined to cold waves or those who fail to anticipate them.[35]

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[33] R.E. Davis, et al., *Decadal Changes in Summer Mortality in U.S. Cities*, 47 Int'l J. of Biometeorology 166, 172 (2003); *see also* Anthony R. Wood, *Warming Won't Devastate, Researchers Say*, Philadelphia Inquirer, June 14, 2004, at E3 ("Heat-related deaths actually declined from the 1960s to the 1990s") (available at 2004 WLNR 19349000).

[34] *See* R.E. Davis, et al., *Changing Heat-Related Mortality in the United States*, 111 Environ. Health Perspect. 1712 (2003).

[35] *See, e.g.*, Intergovernmental Panel on Climate Change, *Climate Change 2001*, Chapter 9.4.2 (admitting that "several studies indicate that decreases in winter mortality may be greater than increases in summer mortality under climate change," and that "limited evidence indicates that, in at least some temperate countries, reduced winter deaths would outnumber increased summer deaths") (http://www.grida.no/climate/ipcc_tar/wg2/353.htm); H.G. Ansleigh, *Beneficial Effects of Sun Exposure on Cancer Mortality*, 22 Preventive Medicine 132 (1993) (colder cities have higher overall cancer rates than warmer cities);

The CS Brief also claims that rising temperatures will result in more extreme weather events, and in altered patterns of rainfall (e.g., droughts and floods) "that will disrupt natural and agricultural ecosystems and increase the risk of extinction for animal and plant species." CS Brief at 14.

But the IPCC's 2001 report indicates that precipitation increases are less than 1% per decade over the mid-latitudes – a figure that is dwarfed by the natural variability in precipitation.[36] In a subsequent study, New et al. concluded that terrestrial precipitation over the habitable regions of the globe increased only by 9 mm (0.35 inches) over the past century – or less than 1 mm per decade, and concluded that few regions of the world show marked trends in precipitation.[37]

Changes in precipitation frequencies are more difficult to assess. Nonetheless, for the United States, Kunkel, et al. found that the frequency of heavy precipitation for the latter twentieth century was comparable to that which occurred in the late nineteenth and early twentieth centuries.[38]

Christopher R. Adams, Colo. State U., *Impacts of Temperature Extremes* (http://sciencepolicy.colorado.edu/socasp/weather1/adams.html) ("The average number of deaths attributed to cold is 770 yearly, substantially higher than the number attributed to heat," and roughly double the number of heat-related deaths), *citing* E. Kilbourne, *Heat Waves and Hot Environments* (1997) *in* E. Noji, *The Public Health Consequences of Disasters* 245-286 (1997).

[36] Intergovernmental Panel on Climate Change, *Climate Change 2001: The Scientific Basis* 142 (2001).

[37] M. New, et al., *Precipitation Measures and Trends in the Twentieth Century*, 21 Int'l J. Climatology 1899, 1899 (2001).

[38] K.E. Kunkel, *Temporal Variations of Extreme Precipitation Events in the United States: 1895-2000*, 30 Geophysical Res. Ltrs. 1900 (2003).

IV. Contrary to the Climate Scientists' Claims, Discrepancies Between Satellite and Surface Temperature Data Still Exist, and the Historical Significance of Recent Temperatures Remains in Dispute

The CS Brief argues that, since the publication of *Climate Change Science*, the "apparent discrepancy" between surface and satellite temperature records "has been resolved." This discrepancy involved the fact that the climate models projected a greater increase in the average temperature of the troposphere (roughly the bottom 8 miles of the atmosphere) than in surface temperatures. The satellite data failed to show this. This discrepancy indicated a basic flaw in the models. But according to the CS Brief, now "all available data sets show that both the surface and the troposphere have warmed." (CS Brief at 17).

But the fact that the two records both show warming does not automatically mean that they are not in conflict. The most current research supports the continued existence of a discrepancy and its serious implications for model simulations.[39]

The CS Brief claims that, since the NAS/NRC 2001 and 2002 reports, a more recent NAS/NRC report (*National Academy of Sciences: Surface Temperature Reconstructions for the Last 2,000* years) concluded that "the global mean

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[39] J.R. Christy & R.W. Spencer, *Correcting Temperature Data Sets*, 310 Science 972 (2005); J.R. Christy & W.B. Norris, *Satellite and VIZ-Radiosonde Intercomparisons for Diagnosis on Non-Climatic Influences*, 23 J. Atmospheric & Oceanic Tech. 1181 (2006); J.R. Christy, et al., *Methodology and Results of Calculating Central California Surface Temperature Trends: Evidence of Human-Induced Climate Change?*, 19 J. Climate 548 (2006); J.R. Christy, et al., *Tropospheric Temperature Change Since 1979 from Tropical Radiosondes and Satellite Measurements*, 111 J. Geophysical Research __ (in press).

surface temperature during the last few decades was higher than in any comparable period in the past four centuries, if not in the past 1000 years." CS Brief at 16-17.

In fact, this new report raises serious questions about the reliability of reconstruction techniques. Subsequent to the NAS report, the Energy and Commerce Committee of the House of Representatives solicited a report on this matter from Dr. Edward Wegman, Chair of the National Academy of Sciences Committee on Applied and Theoretical Statistics. Wegman reported that

> the assessments that the decade of the 1990s was the hottest decade in a millennium and that 1998 was the hottest year in a millennium cannot be supported ....The paucity of data in the more remote past makes the hottest-in-a-millennium claims essentially unverifiable.[40]

In short, it is impossible to verify claims that the earth is in the midst of an unprecedented heat wave.

V. History Demonstrates that Restricting Greenhouse Gas Emissions in the Past Would Have Greatly Harmed Humanity

The effects of greenhouse gas emissions are not a new subject. In 1896, the Swedish chemist Svante Arrhenius published, in the journal *Philosophical Transactions*, the seminal paper on the effects of higher carbon dioxide on temperature. He predicted that a doubling of its atmospheric

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[40] http://energycommerce.house.gov/108/home/_07142006_Wegman_Report.pdf

concentration would lead to an average surface temperature increase of slightly over 5°C.[41]

His prediction would seem to pose a problem for humanity. After all, atmospheric carbon dioxide was demonstrably increasing. Moreover, the regional surface had warmed, as evidenced by the retreat of midlatitude glaciers in Europe between the mid- 19th and 20th centuries.[42]

The CS Brief argues that:

> In...climate science...critical decisions must be made in a timely fashion to protect the health and welfare of the population...without the false luxury of waiting for damage to be observed (p. 21).

By this logic, however, carbon dioxide restrictions would have been imposed at the turn of the last century. As a result, the world would have lost many of the benefits of industrialization, from advances in transportation, agriculture, and technology to the scientific progress made possible by the expanding capital of growing economies. The dramatic increase in life expectancy over the last century occurred largely in those nations which might, under the CS Brief's approach, have imposed such emission restrictions.[43] But had this occurred, these nations' economies could not have developed anywhere near as rapidly, given the resulting restrictions on using fossil fuels. It is fossil fuels that enabled the Industrial Revolution to occur on the scale that it

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[41] Arrhenius, *On the Influence of Carbonic Acid in the Air Upon the Temperature of the Ground*, 41 Phil. Transactions 237, 266 (1896).

[42] E.L. Ladurie, *Times of Feast, Times of Famine: A History of Climate Since the Year 1000* plate xxi and xxii (1971).

[43] *See* National Institute on Aging, Population Reference Bureau, *The Future of Human Life Expectancy* 1 (March 2006) (available at http://www.prb.org/pdf06/NIA_FutureofLifeExpectancy.pdf) ("life expectancy . . . has nearly doubled in the past century").

did. Much of what was gained in the last 100 years would have never been, and no one would have been the wiser.

CONCLUSION

The CS Brief is quite wrong to argue that the "evidence supporting such a determination [that greenhouse gas emissions 'may reasonably be anticipated to endanger public health or welfare'] is compelling." The net effect of greenhouse emissions on human health and welfare is unknown and has not been comprehensively determined, even as the technological and scientific advances associated with those emissions have dramatically increased life expectancy. The CS Brief mischaracterizes the effects of greenhouse gases on the globe's temperature history, on hurricanes, on melting of ice and sea-level rise, and on health and mortality. Because of these facts, it is simply impossible to conclude that the net effect of greenhouse gases endangers human health and welfare.

For these reasons, the decision below should be affirmed.

Respectfully submitted,

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In The

Supreme Court of the United States

♦

COMMONWEALTH OF MASSACHUSETTS, ET AL.,
PETITIONERS,

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.,
RESPONDENTS.

♦

ON PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

♦

Brief *Amicus Curiae* of ERNEST L. DAMAN, TOM A. HENDRICKSON NATHAN H. HURT, KLAUS S. LACKNER, DENNIS K. McBRIDE, A. ALAN MOGHISSI, HAROLD W. OLSEN, PAOLO F. RICCI PETER P. ROGERS and RICHARD WILSON in Support of Respondent

♦

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QUESTIONS PRESENTED

1. Whether the Administrator of the Environmental Protection Agency has authority to regulate air pollutants associated with climate change under section 202(a)(1) of the Clean Air Act, 42 U.S.C. 7521(a)(1).

2. Whether the EPA Administrator may decline to issue emission standards for motor vehicles based on policy considerations not enumerated in section 202(a)(1) of the Clean Air Act.

PARTIES TO THE PROCEEDINGS BELOW

Petitioners, who were petitioners in the court of appeals, are the Commonwealth of Massachusetts, the States of California, Connecticut, Illinois, Maine, New Jersey, New Mexico, New York, Oregon, Rhode Island, Vermont, and Washington, the District of Columbia, American Samoa Government, New York City, the Mayor and City Council of Baltimore, Center for Biological Diversity, Center for Food Safety, Conservation Law Foundation, Environmental Advocates, Environmental Defense, Friends of the Earth, Greenpeace, International Center for Technology Assessment, National Environmental Trust, Natural Resources Defense Council, Sierra Club, Union of Concerned Scientists, and U.S. Public Interest Research Group.

Respondents are the Environmental Protection Agency, and the Alliance of Automobile Manufacturers, National Automobile Dealers Association, Engine Manufacturers Association, Truck Manufacturers Association, CO_2 Litigation Group, Utility Air Regulatory Group, and the States of Michigan, Alaska, Idaho, Kansas, Nebraska, North Dakota, Ohio, South Dakota, Texas, and Utah (intervenors below).

CORPORATE DISCLOSURE STATEMENT

Amici are individuals, who appear here in their individual capacities, and not as officers, directors or members of any institution with which they are affiliated.

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American Horse Protection Ass 'n v. Lyng, 812 F.2d 1 (D.C. Cir. 1987) 22

Cellnet Communications, Inc. v. FCC, 965 F.2d 1106 (D.C. Cir. 1992) 22

Environmental Defense Fund v. EPA, 598 F.2d 62 (D.C. Cir. 1978) 25

Ethyl Corp. v. EPA, 541 F.2d 1 (en banc), *cert. denied*, 426 U.S. 941 (1976) 23, 24, 25

FDA v. Brown & Williamson Tobacco Corp., 529 U.S. 120 (2000) 4

Massachusetts v. EPA, 415 F.3d 50 (D.C. Cir. 2005) .. *passim*

National Bank of Commerce v. Assoc. Milk Producers, Inc., 22 F. Supp.2d 942 (E.D. Ark. 1998) 16

NRDC v. SEC, 606 F.2d 1031 (D.C. Cir. 1979) 25

WWHT, Inc. v. FCC, 656 F.2d 807 (D.C. Cir. 1981) 22, 25

TABLE OF AUTHORITIES (cont'd)

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Statutes

Clean Air Act, sections 108 and 109, 42 U.S.C. 7408-7409 .. 3

Clean Air Act, section 202(a)(1),
42 U.S.C. § 7521(a)(1) (2000) ..... *passim*

Clean Air Act, section 302, 42 U.S.C. 7602 3

Clean Air Act, section 302(g), 42 U.S.C. 7602 3

Energy Policy and Conservation Act, Title V,
49 U.S.C. §§ 32901-32919 4

Miscellaneous

M.R. Allen., *et al.*, "Quantifying the uncertainty in forecasts of anthropogenic climate change," *Nature* 407 (2000) 9

S. Arrhenius, "On the influence of carbonic acid in the air upon the temperature of the ground,"
41 *Philosophical Magazine* 237 (1896) 10

Climate Change Science: An Analysis of Some Key Questions (2001) 5

Control of Emissions from New Highway Vehicles and Engines, Notice of denial of petition for rulemaking, 68 Fed. Reg. 52922 (Sept. 8, 2003) .... *passim*

L.A. Cox and P.F. Ricci, "Health-Risk Assessment: Production of Electricity,"
116 *J. Energy Engineering* 130 (1990) 14

TABLE OF AUTHORITIES (cont'd)

Page

Miscellaneous (cont'd)

A. Kalelkar, J. Fiksel, P.F. Ricci, and T.L. Cox, "Occupational Risks of Energy Production," 24 Nuclear Safety 459 (1983) 14

Doull & Bruce, "Origin and Scope of Toxicology," in CASARETT & DOULL'S TOXICOLOGY: THE BASIC SCIENCE OF POISONS (3d ed. 1986) 16

Foukal, *et al.*, "Variations in solar luminosity and their effect on the Earth's climate," 443 *Nature* 161-166 (2006) 12

J.A. Fourier, 7 *Mem. Acad. Sci. Inst. Fr.* 569 (1839) 10

R. Hagar, "Submarine Atmospheric Control and Monitoring Brief for the COT Committee, Presentation at the First Meeting on Emergency and Continuous Exposure Guidance Levels for Selected Submarine Contaminants" (2003) 17

J.E. Hansen, *et al.*, "Climate forcings in the industrial era," 95 PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES 753-758 (1998) 10

D.V. Hoyt and K.H. Schatten, THE ROLE OF THE SUN IN CLIMATE CHANGE (1997) 12

D.W. Jorgensen, and P.J. Wilcoxen, "Reducing U.S. Carbon Dioxide Emissions: the Cost of Different Goals," John F. Kennedy School of Government, Center for Science and International Affairs, Discussion Paper 91-9 (1991) ... 14, 20

TABLE OF AUTHORITIES (cont'd)

Page

Miscellaneous (cont'd)

D.W. Jorgensen, Testimony Before the Senate Committee on Environment and Public Works (July 10, 1997), http://epw.senate.gov/105th/jorg0710.htm 14-15

C.D. Keeling, R.B, Bacastiw, A.E. Bainbridge, A. Ekhdahl, R. Guenther and S. Waterman, "Atmospheric carbon dioxide variations at Mauna Loa Observatory Hawaii," 28 Tellus, 538-551 (1973) 9

C.D. Keeling, "The Carbon Dioxide Cycle," in CHEMISTRY OF THE LOWER ATMOSPHERE (S.I. Raoul, ed.) (1973) 9

J.T. Kiehl, J. T., K.E. Trenberth, "Earth's Annual Global Mean Energy Budget," 78 (2) Bulletin of the American Meteorological Society 197-208 (1997) 13

K.S. Lackner, R.Wilson and H-J Ziock, "Free-Market Approaches to Controlling Carbon Dioxide Emissions to the Atmosphere: a Discussion of the Scientific Basis," Global Foundation Conference on "Global Warming and Energy Policy"(American Institute of Physics, Kursunuglu, Mintz and Perlmutter, eds., 2000) 21

National Academies, Board on Environmental Studies and Toxicology, "Emergency and Continuous Exposure Guidance Levels for Selected Submarine Contaminants" (2004) 17

TABLE OF AUTHORITIES (cont'd)

Page

Miscellaneous (cont'd)

National Academy of Sciences, Board on Atmospheric Sciences and Climate, SURFACE TEMPERATURE RECONSTRUCTIONS FOR THE LAST 2,000 YEARS (2006) ... 12

National Academy of Science, Commission on Engineering and Technical Systems, "Automotive Fuel Economy: How Far Can We Go?" (1992), available at http://www7.nationalacademies.org/deps/>CETS) 13

National Academy of Science, Committee on Science, Engineering, and Public, "Public Policy Implications of Greenhouse Warming" (1991), available at http://www7.nationalacademies.org/cosepup/ 9, 11

Norwegian Commission on Low Emissions, "NOU 2006:18: A climate-friendly Norway," October 4, 2006, English language summary available at http://www.lavutslipp.no/article_1334.shtml .. 21

W. Pagel, *Paracelsus* (2d ed. 1982) 16

Paracelsus, FOUR TREATISES OF THEOPHRASTUS VON HOHENHEIM (H. E. Sigerist, ed.) (1941) 16

P.F. Ricci, ENVIRONMENTAL RISK ASSESSMENT AND MANAGEMENT: PRINCIPLES AND PRACTICES (2006) .. 14

P.F. Ricci, "Mortality, Air Pollution, and Energy Production: Uncertainty and Causality," 116 *J. Energy Engineering* 148 (1990) 14

TABLE OF AUTHORITIES (cont'd)

Page

Miscellaneous (cont'd)

H. Svensmark, J.O.P. Pedersen, N.D. Marsh, M.B. Enghoff, U.I. Uggerhøj, "Experimental Evidence for the Role of Ions in Particle Nucleation Under Atmospheric Conditions," 462 Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences 1773 (Oct. 3, 2006), http://www.journals.royalsoc.ac.uk/(5helzf45nxp3va55eoguqt55)/app/home/contribution.asp?referrer=parent&backto=issue,12,46;journal,1,133;linkingpublicationresults,1:102023,1 12

U. S. Department of Energy, Framework for an Energy Security and Climate Stabilization Strategy (2004) 15

U. S. Environmental Protection Agency, Office of Policy, Inventory of U. S. Greenhouse Emissions and Sinks, 1990-2004 (EPA 430-R-06-002) (2006) 9, 10, 11, 13

No. 05-1120

In The

Supreme Court of the United States

♦

COMMONWEALTH OF MASSACHUSETTS, ET AL.,
PETITIONERS,

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.,
RESPONDENTS.

♦

Brief *Amicus Curiae* of
ERNEST L. DAMAN, TOM A. HENDRICKSON
NATHAN H. HURT, KLAUS S. LACKNER,
DENNIS K. McBRIDE, A. ALAN MOGHISSI,
HAROLD W. OLSEN, PAOLO F. RICCI
PETER P. ROGERS and RICHARD WILSON
in Support of Respondent

♦

INTEREST OF *AMICI CURIAE*

Amici respectfully submit this brief as *amici curiae* in support of the Respondents.[1, 2]

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[1] The parties have consented to the filing of this brief; their letters of consent are on file with the Clerk of the Court. In accordance with Rule 37.6, *amici* state that no counsel for either party has authored this brief in whole or in part, and no person or entity other than *amici* has made a monetary contribution to the preparation or submission of this brief.

[2] *Amicus* Dennis K. McBride is President of the Potomac Institute for Policy Studies, a non-partisan, independent "think tank" which does (continued...)

Amici are scientists and engineers with diverse views on the projected global climate change as a consequence of increases in the atmospheric carbon dioxide ("CO_2"). Some *amici* think that societal action to control global atmospheric carbon dioxide concentrations in the atmosphere is long overdue. Other *amici* are concerned about the economic impact of overly hasty action. However, *amici* agree that regulating the CO_2 emissions from automobiles under the Clean Air Act is not the appropriate way to attempt to control these global concentrations and may well have an economic cost that far exceeds using other alternatives. This conclusion should, however, not be taken as opposition to more direct and inclusive methods of addressing increasing carbon dioxide concentrations in the atmosphere.

Amici believe that Petitioners and certain of the *amici* filing briefs in support of petitioners[3] oversimplify and to some extent conflate diverse and not wholly consistent concepts in trying to suggest that regulating motor vehicle tailpipe emissions, particularly of carbon dioxide, will have a significant impact on climate change.

STATEMENT OF THE CASE

This case involves review of the U.S. Environmental Protection Agency's ("EPA" or "Agency") denial in 2003 of a petition for rulemaking, filed in 1999, asking the Agency to

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[2](...continued)
work for the Congress, the Executive branch and the Judiciary. It does no work for respondent EPA. It has done work for the Department of Energy, largely collaborative with the National Laboratories (primarily Sandia and Los Alamos) on high tech national security and homeland security issues. None of its work for DOE has been concerned with hydrocarbon energy.

Amicus A. Alan Moghissi is President of Institute for Regulatory Science, which also does work for the Department of Energy, primarily designing and conducting peer reviews of DOE science projects.

[3] *E.g.* Brief of *Amici Curiae* Climate Scientists David Battisti, *et al.*

regulate greenhouse gas emissions from new motor vehicles under section 202(a)(1) of the Clean Air Act (the "Act" or "CAA"), 42 U.S.C. § 7521(a)(1) (2000), to address global climate change.[4] Petitioners based their request on the argument that EPA had a "mandatory duty" under the Act to regulate those emissions. Control of Emissions from New Highway Vehicles and Engines, Notice of denial of petition for rulemaking, 68 Fed. Reg. 52922, 52923 (Sept. 8, 2003), A-59, A-60. After giving the public an opportunity to comment on the rulemaking petition and considering public comments, EPA denied the petition. *Id.* at 52922-33, A-59 to A-93.

EPA set forth three grounds for its denial of the petition. First, it determined, based on the Act's language and legislative history, other statutes, congressional decisions, and principles of statutory

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[4] Sections 108 and 109 of Title I of the Clean Air Act, 42 U.S.C. 7408-7409, authorize the Environmental Protection Administration ("EPA") to set national ambient air quality standards ("NAAQS") for air pollutants that cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare and that are emitted by numerous or diverse sources. Title II of the Act establishes a regulatory framework for federal control of pollution from motor vehicles and other mobile sources. *See* Clean Air Act, Sections 202-250, 42 U.S.C. 7521-7590. This case involves Section 202(a)(1) of the Act, 42 U.S.C. 7521(a)(1), which authorizes EPA to "prescribe * * * standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in [EPA's] judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." Section 302 of the Act, 42 U.S.C. 7602, sets forth general definitions applicable to the Act as a whole. Section 302(g), 42 U.S.C. 7602(g), defines "air pollutant" as "any air pollution agent or combination of such agents, including any physical, chemical, biological, [or] radioactive * * * substance or matter which is emitted into or otherwise enters the ambient air" including any precursors to the formation of such air pollutant. "[E]ffects on welfare" is defined to include "effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, and damage to * * * property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being." 42 U.S.C. 7602(h).

interpretation in *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000), that it lacked authority under the Clean Air Act to regulate greenhouse gas emissions for the purpose of addressing global climate change. *Id.* at 52925-29, A-68 to A-79. EPA also stated that "[i]n light of Congress' attention to the issue of global climate change, and the absence of any direct or even indirect indication that Congress intended to authorize regulation under the Act to address global climate change, it is unreasonable to conclude that the CAA provides the Agency with such authority." 68 Fed. Reg. at 52928, A-78.

Second, EPA found that the only practical way to reduce tailpipe emissions of CO_2, the most prevalent greenhouse gas, is to improve fuel economy. 68 Fed. Reg. at 52929, A-79 and that any EPA effort to set CO_2 tailpipe standards under the Act would either abrogate EPCA's regime if the standards were more stringent than the applicable fuel economy standard or be meaningless if they were less stringent. *Id.*, A-80, and that even if the Act authorized it to regulate greenhouse gas emissions to address global climate change, granting the rulemaking petition would conflict with Title V of the Energy Policy and Conservation Act ("EPCA"), 49 U.S.C. §§ 32901-32919, which authorizes the Department of Transportation to establish fuel economy standards for motor vehicles. *Id.* at A-79 to A-80.

Third, EPA determined that, even if the Act did provide EPA with authority to regulate greenhouse gas emissions to address global climate change, section 202(a) of the Act -- the provision at issue in the rulemaking petition -- gives EPA's Administrator discretion to determine "in his judgment" whether, based on the facts before the Agency, the emissions in question "may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7521(a)(1), and that the Administrator had never made a determination under the Act that greenhouse gas emissions endanger public health or welfare and that the timing of any such endangerment determination is within the Administrator's discretion. 68 Fed. Reg. at 58929, A-80 to A-81.

EPA thus determined that, contrary to petitioners' argument, it had no mandatory duty to undertake rulemaking.

EPA also found that the scientific evidence before it, including the National Research Council's report, *Climate Change Science: An Analysis of Some Key Questions* (2001), was "extraordinarily complex and still evolving" and reflected "'considerable uncertainty in current understanding of how the climate system varies naturally and reacts to emissions of greenhouse gases.'" 68 Fed. Reg. at 52930, A-83 (quoting NRC Report). EPA noted that, given the global nature of atmospheric concentrations of CO_2, it is "extremely difficult to evaluate" to what extent any "effects in the U.S. would be related to anthropogenic [CO_2] emissions in the U.S." *Id.* at 52927, A-73. In light of the scientific uncertainty on these critical issues, EPA found no basis for making an endangerment determination and regulating motor vehicles' greenhouse gas emissions under section 202(a) of the Act. *Id.* at 52931, A-86 (declining to regulate "[u]ntil more is understood about the causes, extent and significance of climate change"). EPA concluded that "establishing [greenhouse gas] emission standards for U.S. motor vehicles at this time would require EPA to make scientific and technical judgments without the benefit of the studies being developed to reduce uncertainties and advance technologies." *Id.*, A-85.

EPA also denied the rulemaking petition because it determined that, even if it had authority under the Act to undertake rulemaking, it had neither an obligation nor a sound basis to do so.

Petitioners sought review of EPA's denial by the U.S. Court of Appeals for the District of Columbia Circuit. Without reaching the issue whether the Act provides EPA with authority to regulate for global climate change purposes, a panel of the D.C. Circuit held, in an opinion by Judge Randolph, that assuming *arguendo* that EPA has such authority, EPA properly exercised its discretion in denying the rulemaking petition. *Massachusetts v. EPA*, 415 F.3d 50, 56 & n.1, 58 (D.C. Cir. 2005), A-10 & n.1 and A-15; *see also id.* 415 F.3d at 61, A-20 (Sentelle, J., concurring in the

judgment). Judge Tatel dissented, believing that EPA had "misinterpreted the scope of its statutory authority" and had provided a legally inadequate explanation for the petition denial. *Id.* at 82, A-58 (Tatel, J., dissenting). In his view, Section 202(a)(1) authorizes the EPA Administrator, in determining whether a pollutant "in his judgment cause[s], or contribute[s] to, air pollution which may reasonably be anticipated to endanger public health or welfare," only "to determin[e] whether the statutory standard for endangerment has been met." *Id.* at 74. Moreover, Judge Tatel concluded that the scientific uncertainties associated with global warming, see id. at 74, the overlapping responsibilities of the Department of Transportation in setting fuel economy standards, *see id.* at 68, and the potential for interference with the United States' ongoing negotiations with other nations, *see id.* at 80-81, did not justify EPA's action.

The court of appeals denied a petition for rehearing *en banc*.

SUMMARY OF ARGUMENT

Although the relationship between emissions of CO_2 and its atmospheric concentration is complex, it is generally agreed that the combustion of fossil fuels constitutes the primary reason for the recent increases in the atmospheric CO_2 concentration. Although CO_2 is a very important greenhouse gas, there are numerous other greenhouse gases: water vapor, which is responsible for approximately 35 to 70 percent of the greenhouse effect far exceeds the contribution of CO_2, which accounts for 10 to 25 percent.

The current case concerns only the emissions of CO_2 (and certain other gases) from cars and light trucks, but it is estimated that approximately one-fourth (25%) of total world emissions comes from cars and light trucks. Consequently, regulating CO_2 emissions from cars would leave about three-quarters of world emissions unregulated. Regulating CO_2 emissions based on its impact on global climate change, should include regulating emissions from the primary source of CO_2 emissions which at the

present time are from various industrial sources, including electricity generation using coal, oil and natural gas.

Regardless of the actions of the United States and other industrial countries, it is estimated that by about 2035 CO_2 emissions from countries not covered by the Kyoto Protocol will exceed CO_2 emissions from countries covered by Kyoto Protocol. The need is for a more comprehensive approach than mere regulation of CO_2 emissions by new motor vehicles in the United States. The limited regulation proposed by petitioners would only have a limited impact on the hypothesized and projected global climate change resulting from the increases in the atmospheric concentration of CO_2.

The justification and procedure for regulation of the more usual air pollutants under the Clean Air Act are logically and practically hard to square with control of CO_2 concentrations. EPA's determination was correct because one cannot consider CO_2 as an air pollution agent that needs to be controlled in the way conventional pollutants are controlled.

Even though climate change may well be a problem, it is the full carbon cycle that needs to be regulated, not merely the emission of CO_2.[5] Regulating tailpipe emissions from cars and light trucks under the Clean Air Act to accomplish the goal of reducing "greenhouse gases" and global warming is the wrong procedure, will be ineffective, and fails to give the right incentives either to the other branches of government or to other countries.

Regulating the CO_2 emissions from automobiles and light trucks under the Clean Air Act is not the appropriate way to attempt to control global concentrations of "greenhouse gases"

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[5] The easiest way to see this is to consider biofuels: cars running on alcohol or biodiesel emit CO_2 but this CO_2 does not contribute in a net way to climate change. In other words, the CO_2 emission is harmless as long as it is balanced by CO_2 capture. Biofuels release carbon that has been captured by photosynthetic processes a short time prior to its emission.

and may well have an economic cost that far exceeds using other alternatives.[6]

ARGUMENT

Amici believe that regulating the CO_2 emissions from automobiles under the Clean Air Act is not the appropriate way to attempt to control these global concentrations and may well have an economic cost that far exceeds using other alternatives.

1. Carbon dioxide is an essential compound for maintenance of life on earth. Without CO_2 there would be no ecosystem, no plants, meaning no nourishment for most animals that are part of the human food chain, and thus no food for humans. Therefore, it is not simply the elimination of CO_2 from the atmosphere, but maintaining a concentration level that supports animal and plant life without having an adverse impact on climate and other life systems. Although, at the present time and in the foreseeable future, there is no scientifically acceptable method to establish a precise environmental standard for CO_2 concentrations, there is general agreement that it would be wise to limit them or at least slow their increase.

2. There has been considerable variation in the quantity of atmospheric CO_2 due to the equilibrial nature of interacting global and solar variables. The variation over the past 400,000 years has ranged from under 200 ppmv to over 300 ppmv. Concentration of CO_2 in the atmosphere has increased rapidly during the past century from about 300 parts per million by volume (ppmv) to

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[6] For example, a power plant that uses wood or other biomass as a fuel and that captures carbon dioxide and stores it permanently, could be used to compensate for the fossil carbon consumption on board a vehicle. Trading two different carbon transactions against each other shows that simply treating CO_2 emission from a vehicle's tailpipe as an emission of a dangerous pollutant that needs to be eliminated or severely reduced is too simplistic and could be counterproductive. It could effectively stymie any development of methods capturing carbon dioxide from the air through biomass or other means, not because it would not be effective, but because regulations would not create an incentive for this approach.

about 380 ppmv.[7] This increase appears similar to the four previous upswings over the past half-billion years, each of which was followed by downswings. The major CO_2 variations occur in approximately 100,000 year cycles, and there were approximately ten smaller cycles within the five major 100,000 year trends. Combustion of fossil fuels; certain industrial activities; deforestation and combustion of woods and other organic matter removed from forests (which "consume" CO_2 and release O_2) add to the net quantity of CO_2 in the atmosphere.[8]

There are also natural sinks for CO_2 These are primarily associated with annual growth of plants and year-round uptake by oceans. The measurements begun by Keeling, *et al.*[9] at Mauna Loa, and continuing to the present day, clearly show diurnal variation in CO_2 concentrations. Uptake of CO_2 to the shallow oceans is relatively fast on a year-to-year timescale[10], whereas the mixing of the shallow oceans with the very large sink deep oceans is relatively slow. In fact such sink mixing is slower than the present rate of increase in atmospheric concentrations and therefore the absorption of CO_2 into the deep ocean sink is slower than the present rate of rise of the concentrations.[11]

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[7] National Academy of Science, Committee on Science, Engineering, and Public, "Public Policy Implications of Greenhouse Warming," figure 3.1 at 12 (1991), available at http://www7.nationalacademies.org/cosepup/.

[8] *See, e.g.*, M.R. Allen., *et al.*, "Quantifying the uncertainty in forecasts of anthropogenic climate change," *Nature* 407 (2000).

[9] C.D. Keeling, R.B, Bacastiw, A.E. Bainbridge, A. Ekhdahl, R. Guenther and S. Waterman, "Atmospheric carbon dioxide variations at Mauna Loa Observatory Hawaii," 28 *Tellus* 538-551 (1973).

[10] C.D. Keeling, "The Carbon Dioxide Cycle," in CHEMISTRY OF THE LOWER ATMOSPHERE (S.I. Raoul, ed.) (1973).

[11] U. S. Environmental Protection Agency, Office of Policy, Inventory of U. S. Greenhouse Emissions and Sinks, 1990-2004 (EPA 430-

(continued...)

3. Although the relationship between emissions of CO_2 and its atmospheric concentration is complex, it is generally agreed that the combustion of fossil fuels constitutes the primary reason for the recent increases in the atmospheric CO_2 concentration.[12] But it must be recognized that limiting CO_2 emissions is not the same as limiting CO_2 concentrations.

4. The idea that the earth is a "greenhouse" dates back at least to the suggestion of Jacques Fourier.[13] Laboratory measurements show that CO_2 absorbs infrared radiation and therefore can help create a greenhouse. This hypothesis dates to the work of Tyndall in 1870s. CO_2 can therefore in modern parlance loosely be called a "greenhouse gas (GHG)." The work of Arrhenius showed that past world temperature changes might be related to CO_2 concentration.[14] Recent work shows that although CO_2 is a very important greenhouse gas, there are numerous other greenhouse gases. In particular, water vapor (which is responsible for approximately 35 to 70 percent of the greenhouse effect (this varies with geographical location) exceeds CO_2 (which is probably 10 to 25 percent responsible) in importance. Other gases responsible for contributing to the greenhouse effect include methane (5 to 9 percent), chlorofluorocarbons (CFCs), nitrous oxide (N_2O) and numerous other gases. If there were no change in the concentration of water vapor and other greenhouse gases, the global-mean surface temperature would increase by $T_d = 1.2C$, for a static doubling of CO_2. This estimate is based upon

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[11](...continued)
R-06-002) (hereafter "EPA Inventory") at 7 (2006) .

[12] See J.E. Hansen, *et al.*, "Climate forcings in the industrial era," 95 PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES 753-758 (1998).

[13] J.A. Fourier, 7 *Mem. Acad. Sci. Inst. Fr.* 569 (1839).

[14] S. Arrhenius, "On the influence of carbonic acid in the air upon the temperature of the ground," 41 *Philosophical Magazine* 237 (1896).

laboratory data on absorption of infrared radiation by CO_2 and is usually considered reliable.[15]

Concentrations of atmospheric water vapor are generally expected to increase with increasing temperature, and since water vapor is the most important greenhouse gas, this could amplify warming. It is the estimate of the reliability of this expectation that creates the biggest uncertainty in the scientific understanding, and therefore of much of the controversy on the need for regulation.

Each GHG has an associated Global Warming Potential (GWP) number. Using CO_2 as the base (value of 1.00), methane has a GWP of 21 and SF_6 has a GWP of 23,900,[16] which indicates the wide range of GWP values. The warming impact of a GHG is the product of its GHG concentration in the atmosphere and its GWP.

Another important issue is the technically defined residence time of an atmospheric gas. This is basically the measurement of the estimate of the tenure of a gas in its beginning molecular form. Like GWP, residence times vary among compounds. The residence time of a GHG is important for the assessment of its impact. For example, whereas the residence time of water vapor in the atmosphere is short and highly variable, the residence time of CO_2 is estimated to range from 50 to 800 years, depending upon the assumptions about certain variables -- primarily associated with the time for ocean mixing -- used in the calculations, as noted above.

5. The statements in point (4) above have been confirmed by laboratory experiments. Specifically, these indicate that higher concentrations of CO_2 in a greenhouse are associated with higher temperature if all other conditions (most importantly the energy

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[15] National Academy of Sciences, Committee on Science, Engineering, and Public Policy, "Policy Implications of Greenhouse Warming" (1991), available at http://www7.nationalacademies.org/cosepup/

[16] EPA Inventory, Table 1-2, at 7 (2006).

input) remain constant.[17] In a vast over-simplification, the past global temperature rise was often referred to as the "greenhouse effect." Other observations indicate that the earth's greenhouse is affected by other complex interactions of the Earth and the solar system.[18]

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[17] "It can be said with a high level of confidence that global mean surface temperature was higher during the last few decades of the 20th century than during any comparable period during the preceding four centuries. This statement is justified by the consistency of the evidence from a wide variety of geographically diverse proxies. Less confidence can be placed in large-scale surface temperature reconstructions for the period from A.D. 900 to 1600. Presently available proxy evidence indicates that temperatures at many, but not all, individual locations were higher during the past 25 years than during any period of comparable length since A.D. 900. The uncertainties associated with reconstructing hemispheric mean or global mean temperatures from these data increase substantially backward in time through this period and are not yet fully quantified." National Academy of Sciences, Board on Atmospheric Sciences and Climate, SURFACE TEMPERATURE RECONSTRUCTIONS FOR THE LAST 2,000 YEARS (2006).

[18] These include variability in the output of the Sun itself. This issue is far from settled (*see* Foukal, *et al.*, "Variations in Solar Luminosity and Their Effect on the Earth's Climate," 443 *Nature* 161-166 (2006)) and is not concerned exclusively with the quantity of energy radiated from the sun, but is also concerned with the spectral changes in solar output. For a comprehensive treatment of solar variability. (*see* D.V. Hoyt and K.H. Schatten, THE ROLE OF THE SUN IN CLIMATE CHANGE (1997)). A recent paper provides experimental data to support this hypothesis. H. Svensmark, J.O.P. Pedersen, N.D. Marsh, M.B. Enghoff, U.I. Uggerhøj, "Experimental Evidence for the Role of Ions in Particle Nucleation Under Atmospheric Conditions," 462 Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences 1773 (Oct. 3, 2006), available at http://www.journals.royalsoc.ac.uk/(5helzf45nxp3va55eoguqt55)/app/home/contribution.asp?referrer=parent&backto=issue,12,46;journal,1,133;linkingpublicationresults,1:102023,1. This paper suggests that the ions are active in generating an atmospheric reservoir of small thermodynamically stable clusters, which are important for nucleation processes in the atmosphere and ultimately for cloud formation.

6. CO_2 emissions from mobile sources (i.e. transportation) constitute about one-third of the total world CO_2 emissions.[19] The current regulatory issue, of course, concerns only the emissions of CO_2 from cars and light trucks. Since all transportation consists of much more than cars and light trucks and includes heavy trucks, trains, air transportation and other sources, it is estimated that approximately one-fourth (25%) of total world emission comes from cars and light trucks. Consequently, regulating CO_2 emissions from cars would leave about three-quarters of world emissions unregulated.

7. If we consider the *maximum* reasonable estimate of the contribution of CO_2 to the greenhouse effect (50 percent), then 25 percent (from car and truck transportation) of 50 percent, or only 12.5 percent theoretically maximal reduction would be achieved by limiting tailpipe CO_2 emissions from passenger cars and light trucks. We could achieve this theoretical 12.5 percent reduction only if we reduced car and truck emissions of CO_2 to <u>*zero*</u>, which is impracticable.[20] Moreover, other estimates of the contribution of CO_2 to the greenhouse effect range from 9 to 26 percent,[21] which would mean that the total reduction in greenhouse gas from completely eliminating emissions from cars and light trucks would be from just over 2 percent (.09 x .25) to 6.5 percent (.26 x .25). Furthermore, as noted above, regulating CO_2 emissions from cars not only would leave 75% of the CO_2 emissions unregulated, it would have no effect on the varying quantity of naturally occurring CO_2.

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[19] EPA Inventory, Table ES-3 at ES-7 (2006). Transportation constitutes 1,860.2 out of the total of 5,656.6 $TgCO_2Eq$, or 32.88%.

[20] National Academy of Science, Commission on Engineering and Technical Systems, "Automotive Fuel Economy: How Far Can We Go?" (1992) (available at <u>http://www7.nationalacademies.org/deps/>CETS).</u>

[21] *See, e.g.* J.T. Kiehl, J. T., K.E. Trenberth, "Earth's Annual Global Mean Energy Budget," 78 (2) Bulletin of the American Meteorological Society 197-208 (1997).

Regulating CO_2 emissions based on its impact on global climate change should include regulating emissions from the primary sources of CO_2 emissions, which at the present time are various industrial sources, including electricity generation using coal, oil and natural gas. Moreover merely asking the manufacturers to modify their cars is only a partial, and indirect, solution to this problem. Those who buy cars should also be encouraged not to use them. It is well known that ordinary people are strongly influenced in their actions by price.[22] In principle the analysis of effects and costs should be based on consideration of the entire system or process, not just on the tailpipe emissions of a car or light truck.[23]

A more inclusive solution would, for example, be an increase in gasoline taxes, accompanied by a decrease in other taxes to make the system revenue neutral. This would give appropriate incentives to all sectors of the economy. A more inclusive carbon tax, which would apply to all fuels and processes that emit CO_2, would be preferable. Microeconomists have argued that such a procedure would be stimulating to the economy.[24]

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[22] *See* P.F. Ricci, ENVIRONMENTAL RISK ASSESSMENT AND MANAGEMENT: PRINCIPLES AND PRACTICES (2006); *see also* P. F. Ricci, "Mortality, Air Pollution, and Energy Production: Uncertainty and Causality," 116 *J. Energy Engineering* 148 (1990).

[23] *See* L.A. Cox and P.F. Ricci, "Health-Risk Assessment: Production of Electricity," 116 *J. Energy Engineering* 130 (1990); A. Kalelkar, J. Fiksel, P.F. Ricci, and T.L. Cox, "Occupational Risks of Energy Production," 24 Nuclear Safety 459 (1983); P.F. Ricci, "Mortality, Air Pollution, and Energy Production: Uncertainty and Causality," *supra*, n. 21.

[24] D.W. Jorgensen, and P.J. Wilcoxen, "Reducing U.S. Carbon Dioxide Emissions: the Cost of Different Goals," John F. Kennedy School of Government, Center for Science and International Affairs, Discussion Paper 91-9 (1991). Professor Jorgensen testified before the Senate Committee on Environment and Public Works (July 10, 1997): "Our overall conclusions are, first, that a carbon tax is superior to other tax instruments. Second, by using the revenues to reduce the most burdensome taxes, namely taxes on income from capital, economic growth can be stimulated rather

(continued...)

Those who advocate regulating motor vehicle CO_2 emissions in the United States based on its impact on global climate change logically should seek to reduce significantly emissions from all sources of CO_2 emissions of into the atmosphere, which, as indicated, includes industrial sources, and electricity generation using coal, oil and natural gas. Credit should also be given to those who provide a sink for CO_2.

8. Regardless of the actions of the United States and other industrial countries, it is estimated that by about 2035 CO_2 emissions from countries not covered by the Kyoto Protocol will exceed CO_2 emissions from countries covered by the Kyoto Protocol.[25] This emphasizes the need for a more comprehensive approach than mere regulation of motor vehicles CO_2 emissions in the United States. The regulation proposed by petitioners would only have a limited impact on the hypothesized and projected global climate change resulting from the increases in the atmospheric concentrations of CO_2.[26] This could only be

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[24](...continued)
than retarded. . . . To sum up: The economics of climate change is well understood. The optimal policy...involves a modest reduction in the growth of greenhouse gas emissions. This should provide the basis for any international agreement that would supersede the United Nations Framework Convention of 1994. However, this involves smaller reductions than our existing climate policy, the U.S. Climate Change Action Plan." Professor Jorgensen's testimony can be found at http://epw.senate.gov/105th/jorg0710.htm.

[25] In fact, "... two-thirds of the carbon dioxide emissions in this century are expected to come from developing countries. . ." based on the Intergovernmental Panel on Climate Change ["IPCC"] "Business-As-Usual" or "mid-range" model (Is92a), IPCC, Third Assessment Report, Intergovernmental Panel on Climate Change, Technical Summary of the Working Group I Report of the Intergovernmental Panel on Climate Change (2001). *See* U. S. Department of Energy, Framework for an Energy Security and Climate Stabilization Strategy at 10 and Fig. S10 (2004).

[26] There is no mention, either in Petitioners' Brief or in the brief of the Climate Scientists, David Battisti, *et al.*, of ways of dealing with the (continued...)

rationalized as an example for all other countries emitting CO_2, but it is not a practical way of dealing with greenhouse gases or global climate change. A more direct and inclusive method of control of concentrations is needed than that authorized by the Clean Air Act, and would involve many national jurisdictions.

9. It is important to understand the technical rationale for regulating atmospheric gases and other compounds. Specifically, the emission limits for an air pollutant established by the EPA are overwhelmingly based on one of the following considerations:

a. The compound is a hazardous air pollutant and is regulated on the fundamental claim that it causes adverse human health or other adverse effects at some organic level. Concerns about pollution often have led to appeals for zero concentration of the pollutant. This obviously cannot be achieved, but there is a National Emission standard for Hazardous Air Pollutant (NESHAP) for each of these pollutants. CO_2 is not a hazardous air pollutant in this sense.[27] It occurs naturally, is produced by animal and

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[26](...continued)
global problem, except to acknowledge that when Congress has addressed the issue, it has done so in terms of calling for further research and other nonregulatory measures, *see, e.g.*, Pet. Br. at 23, nor is there any analysis or even estimate of the impact on worldwide greenhouse gas emissions or global warming of the rulemaking they advocate.

[27] Of course, as the renowned sixteenth century German-Swiss alchemist and physician Paracelsus (Theophrastus Philippus Aureolus Bombastus von Hohenheim) (sometimes called the father of toxicology) explained, "All substances are poisons; there is none which is not a poison. The right dose differentiates a poison and a remedy." *See* Doull & Bruce, "Origin and Scope of Toxicology," in CASARETT & DOULL'S TOXICOLOGY: THE BASIC SCIENCE OF POISONS (3d ed. 1986). Succinctly put, "[t]he dose makes the poison." *National Bank of Commerce v. Assoc. Milk Producers, Inc.*, 22 F. Supp.2d 942, 958 (E.D. Ark. 1998); *see also* FOUR TREATISES OF THEOPHRASTUS VON HOHENHEIM (H. E. Sigerist, ed.) (1941); *see also* W. Pagel, *Paracelsus* (2d ed. 1982). In other words, the amount of a substance to which a person is exposed is as important as the nature of the substance.
(continued...)

human respiration and metabolism, and is essential for plant life. It would obviously be impossible and wrong-headed to even aim for zero emissions of CO_2, although a national *net zero* emissions level might be possible when emission and sequestration of CO_2 are averaged. It would be unrealistic to develop a NESHAP for CO_2. Moreover, since CO_2 is CO_2 regardless of its source, any theoretical decision to develop a NESHAP for CO_2 would have to include at least the larger sources of CO_2 emissions, notably industrial coal and other fossil fuel power plants, and thus a large segment of industry. In fact, to establish a NESHAP for only one source of CO_2 would create an unusual, and probably undesirable, precedent for regulation.

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[27](...continued)
For example, small doses of aspirin can be beneficial, but at very high doses this common medicine can be injurious or even fatal.

Thus while it is true that "The dose makes the poison," that proposition has no relevance to a discussion of the nature of CO_2 because there is no likelihood that atmospheric CO_2 concentrations will reach a level that will create a health risk, let alone reach a level that would be itself toxic. A study of nine nuclear ballistic submarines reported average CO_2 at 3,500 ppm with a high recording of 10,600 and for ten nuclear attack submarines, an average of 4,100 ppm with a peak of 11,300 ppm, yet during the usual months-long deployments of nuclear submarines, this continuous exposure had no adverse effects. *See* R. Hagar, "Submarine Atmospheric Control and Monitoring Brief for the COT Committee, Presentation at the First Meeting on Emergency and Continuous Exposure Guidance Levels for Selected Submarine Contaminants" (2003) While it is true that submarine crews are composed of young, healthy men, the research is clear that CO_2 is not problematic until its concentration reaches about 28,000 ppm, and there one begins to see slight headaches, and "...the bulk of the data indicate a no-observed-adverse-effect level (NOAEL) for CO2 of about 25,000 ppm..." National Academies, Board on Environmental Studies and Toxicology, EMERGENCY AND CONTINUOUS EXPOSURE GUIDANCE LEVELS FOR SELECTED SUBMARINE CONTAMINANTS 40 (2004). Average atmospheric CO_2, even at 800 ppm, is of course much more than an order of magnitude less. (For the emission scenario IS92a, *see supra*, n. 22, the IPCC estimates that the atmosphere will contain slightly more than 700 ppm(v) carbon dioxide in the year 2100.)

b. All regulated pollutants have a National Ambient Air Quality Standard (NAAQS). Because NAAQS pollutants have multiple sources, EPA has developed emission standards to ensure that NAAQS for specific pollutants are not exceeded. If a decision were made to regulate CO_2, the first step would be to develop a NAAQS. That would be a difficult task which would involve extensive preliminary work. The difficulty is that CO_2 is emitted from numerous sources not only in the United States but also elsewhere. For its NAAQS to be effective, EPA would have to regulate global industry and motor vehicle use, which is beyond EPA's jurisdiction or influence. Regulation of a only one source, and a small part, of global CO_2 emissions in an indirect way, is not effective or appropriate.

c. The toxic pollutants presently regulated under the Clean Air Act create a *local*, or in a few cases *regional*, hazard. In contrast emissions of CO_2 add to the *global* average CO_2 concentrations. Moreover while the accumulation of CO_2 in the air poses a risk of climate change, the emissions of CO_2 from a particular car, may or may not contribute to this danger. They do contribute in a net sense if the car is burning petroleum that has been taken from the ground and no other action is taken. They do *not* contribute to this danger if a chemically identical fuel has been made from biomass which collected CO_2 from the air and through photosynthesis converted it into an energy rich form. They do *not* contribute, if the owner of the car or the purveyor of the fuel provides for carbon capture elsewhere in the world economy, as long as this capture reduces net carbon emissions to the atmosphere by an amount that is at least equal to the amount of CO_2 that has been emitted. It is thus not appropriate to refer to CO_2 emitted from vehicle tailpipes as a "dangerous pollutant."

The justification and procedure for regulation of the more usual air pollutants under the Clean Air Act are logically and practically hard to square with control of CO_2 concentrations.[28]

10. A power plant that uses wood or other biomass as a fuel and that captures carbon dioxide and stores it permanently could be used to compensate for the fossil carbon consumption by a particular vehicle. Again, this method of trading two different carbon transactions, perhaps in different parts of the world, against each other shows that simply treating CO_2 emissions from a tailpipe as an emission of a dangerous pollutant that needs to be eliminated is too simplistic and could be counterproductive. For example, it could effectively stymie development of technologies for capturing carbon dioxide from the air (through biomass or other means), not because they would not be effective, but because regulations would create a disincentive for this approach being used.

11. The automobile standards mandated by Congress in 1979 have played a part in reducing CO_2 emissions. It seems to *amici* to be inappropriate to use the courts to modify this legislation in an indirect way through the courts when Congress is obviously capable of doing so if and when American people so desire. There is an urgent need to develop a coherent and scientifically valid process that controls or limits CO_2 concentrations while addressing the energy needs of the world population Such a process should also provide for a technology system that can be applied globally Eventually the control of CO_2 concentrations must be based on an international agreement that includes all

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[28] The attempt in Petitioners' Brief to use the example of chloroflurocarbons (CFCs) which were believed to be responsible for a reduction in ozone concentrations in the upper atmosphere with many undesirable effects is misplaced. CFCs were gradually phased out in the United States and elsewhere in the world. That phase-out was made possible when the world's major producers of CFCs had an alternative available at modest cost and agreed with the phase-out. However in the view of *amici*, affordable control of CO_2 concentrations would necessitate a more direct approach which might ultimately have to include the sequestration of CO_2.

nations and provides for the legitimate desires of developing countries to develop their respective industries and acquire a reasonable living standard. *Amici* submit that developing such a procedure is the role of Congress and the Executive, not of the courts. So far, neither the executive branch of government nor Congress has decided to take this step or give guidance to American people or American business. Petitioners' Brief may be useful in focusing attention on the problem, but it does so without increasing understanding of the intricacies of the issue and is likely to be counterproductive and inhibit an adequate approach to the problem.

12. While a case might be made for addressing such aspects of the full solution as can be addressed at the present moment, it is probable that addressing solutions that only address a part of the problem may end up by being far more expensive for society than addressing the problem -- CO_2 concentrations -- in a more direct, simpler, and inclusive way.[29]

Regulation of CO_2 emissions from passenger cars and light trucks has several drawbacks. First, as pointed out above, it may rule out or at least deter entire classes of solutions because they cannot be couched in the terms of an old regulation which was meant for pollutants whose emission should be prevented, not a compound whose accumulation in the atmosphere should be managed. Secondly, and equally important, the central challenge in making carbon management work is to obtain public acceptance of the new regulatory regime that is to be adopted. From this perspective, it would be extremely counterproductive to have a regulatory agency impose an incomplete solution that intrudes on daily life and may be unjustifiably costly.

Proposals for world regulation that provide incentives for development of the needed scientific and technological development have been made. A comprehensive proposal, including carbon sequestration, has recently been submitted to

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[29] Jorgensen and Wilcoxen, *supra* note 11.

the Norwegian Government by an official commission headed by Joergen Randers of the Norwegian School of Management.[30] In essence, since carbon is extracted from the earth at a limited number of places, and since most of it becomes CO_2 within a relatively short time, this might suggest an even more inclusive and possible method of control.[31]

While *amici* have considerable sympathy for the goal of stabilizing or reducing carbon emissions, they believe that regulating tailpipe emissions from motor vehicles under the Clean Air Act to accomplish these goals is the wrong procedure, will be ineffective, and fails to give the right incentives either to the other branches of government, to the industry, or to American people as a whole.

Amici believe that the court of appeals correctly upheld EPA's decision not to regulate motor vehicle tailpipe emissions of CO_2 and other gases because section 202(a)(1) of the Act, 42 U.S.C. 7521(a)(1) expressly conditions the establishment of motor vehicle emissions standards on a discretionary exercise of the Agency's "judgment" as to whether air pollution related to motor vehicle emissions "may reasonably be anticipated" to endanger public health or welfare. Because that provision expressly invokes the Administrator's "judgment," it provides EPA with discretion

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[30] Report of the Norwegian Commission on Low Emissions, "NOU 2006:18: A climate-friendly Norway," October 4, 2006, English language summary available at http://www.lavutslipp.no/article_1334.shtml. This report suggests a comprehensive approach, only a small part of which involves automobiles and light trucks.

[31] *See* K.S. Lackner, R.Wilson and H-J Ziock, "Free-Market Approaches to Controlling Carbon Dioxide Emissions to the Atmosphere: a Discussion of the Scientific Basis," Global Foundation Conference on "Global Warming and Energy Policy" at 31-46 (American Institute of Physics, Kursunuglu, Mintz and Perlmutter, eds., 2000) (report of a conference held in 1999).

in deciding whether and when an endangerment finding can or should be made in the first instance.

That circuit court's case law consistently reflects the established administrative law principle that a federal agency's decision -- based on the facts and given the circumstances before it -- to decline a request to institute rulemaking proceedings is given a high degree of deference. Such a decision should be overturned "only in the rarest and most compelling of circumstances." *WWHT, Inc. v. FCC,* 656 F.2d 807, 818 (D.C. Cir. 1981); *American Horse Protection Ass 'n v. Lyng,* 812 F.2d 1, 4-6 (D.C. Cir. 1987) (denials of rulemaking petitions entitled to "high end" of range of deference). Indeed, "an agency's refusal to initiate a rulemaking is evaluated with deference so broad as to make the process akin to non-reviewability." *Cellnet Communications, Inc. v. FCC,* 965 F.2d 1106, 1111 (D.C. Cir. 1992). As the D.C. Circuit has held, "there are very few cases in which courts have forced agencies to institute rulemaking proceedings on a particular issue after it has declined to do so." *WWHT,* 656 F.2d at 817, 818 (quoting *Action for Children's Television,* 564 F.2d 458, 472 n.24 (D.C. Cir. 1977).

EPA's denial of the rulemaking petition in this case was reasoned. The record before EPA and the circuit court enabled that court to "assure itself that the agency considered the relevant factors, that it explained the 'facts and policy concerns' relied on, and that the facts have some basis in the record." *American Horse Protection Ass 'n v. Lyng,* 812 F.2d 1, 5. EPA provided a full explanation of its reasons for denying the petition in the Federal Register. 68 Fed. Reg. at 52922-33, A-59 to A-93. The Administrative Procedure Act requires that an agency, in denying a petition for rulemaking, give "a brief statement of the grounds for denial"; 5 U.S.C. § 555(e) (2000) (emphasis supplied).

The mere fact that petitioners disagree with the Agency's conclusion does not mean it was not "reasoned," that EPA failed to explain the facts and policy concerns it relied on, or that the facts relied on lack some basis in the record.

The Agency identified a number of reasons -- including, but not limited to, what it perceived as the complex and uncertain nature of the scientific record and its wish to have the benefit of further research -- for its conclusion that even if it had authority to regulate greenhouse gas emissions from motor vehicles, an endangerment finding would be inappropriate at this time.[32] As the D.C. Circuit stated in *Ethyl Corp. v. EPA*, 541 F.2d 1, 20 n.37 (en banc), *cert. denied*, 426 U.S. 941 (1976), the "express provision for administrative discretion via the 'judgment' phrase [in section 202(a)(1)of the Act] is necessary" precisely because that section requires EPA to initiate regulation once it makes a determination of "endangerment" to health or welfare. 541 F.2d at 20 n.37.

EPA's decision also took into account other legal and policy implications of any decision to initiate regulatory action at this time. Petitioners argue that "The existence of uncertainty is not a bar to regulation or an excuse for inaction and that an agency cannot defer action while it waits for scientific certainty." Petitioners' Brief at 41.

Nevertheless, the circuit court properly found no basis to disturb EPA's denial of the petition because an endangerment

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[32] *Amici* do not concur in EPA's reliance on the alleged uncertainty about global warming and its possible impact on society. There is no doubt that CO_2 levels in the atmosphere have risen faster than at any time in history and there is little doubt that the average world temperature has been increasing, probably as a consequence. There is a dispute about the exact amount of the increase and whether that increase will go on for 1,000 years or level off before then. However, there is much more doubt on the effect of such a temperature rise on the world's ecosystem. These doubts should not inhibit the adoption of a comprehensive system for understanding and cautiously regulating the overall problem of combustion of carbon-based fuels. But we believe that the Agency's ultimate decision not to regulate at this time, and the circuit court's sustaining of that determination, were correct because regulation of motor vehicle tailpipe emissions only in the United States would be ineffective and inefficient, and because an "endangerment" finding would mandate such regulation.

determination under the Act "'is necessarily a question of policy....'" 415 F.3d at 58, A-15 (quoting *Ethyl*, 541 F.2d at 24).

The Agency's conclusion that an endangerment determination is not appropriate at this time was properly upheld by the court of appeals because such a finding would mandate regulation, even though regulation might be ineffective or even counterproductive.[33]

Effectively increasing fuel economy standards would be the only way EPA could attempt to limit vehicle emissions of carbon dioxide, but such EPA regulation would conflict with the separate statutory scheme that Congress carefully developed and expressly crafted to address fuel economy standards, under which a division of the Department of Transportation is responsible for such standards. *See id.* 68 Fed. Reg. 52929-33. As the Agency noted, the rulemaking petition made "no suggestion" as to how emissions of the three greenhouse gases other than carbon dioxide that were the subject of the rulemaking petition might be reduced from motor vehicles." 68 Fed.Reg. at 52,931, Pet. App. A14. Petitioners do not explain in their brief to this Court how this might be achieved.

EPA cited other policy reasons that provide support for its decision to deny the rulemaking petition. 68 Fed. Reg. 52929-33, A-82 to A-92. Petitioners assert that EPA may not consider policy reasons under section 202 of the Act at all and that EPA's consideration of these reasons in this case impermissibly tainted the Agency's decision. Pet. Br. at 35-38. The circuit court properly rejected petitioners' argument, holding that "Congress does not require the Administrator to exercise his discretion solely on the basis of his assessment of scientific evidence." 415 F.3d at 58, A-13 (citing *Ethyl*, 541 F.2d at 20); *see id.*, A-15 ("as we have held, a reviewing court 'will uphold agency conclusions based on

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[33] Petitioners incorrectly assert that "A judgment in favor of petitioners will not mandate regulation of air pollutants associated with climate change, nor will it dictate a particular answer to the question whether such pollutants are endangering public health or welfare." Pet. Br. at 3. If that assertion is correct, then this case would seem to be pointless.

policy judgments' 'when an agency must resolve issues "on the frontiers of scientific knowledge"'") (quoting *Environmental Defense Fund v. EPA*, 598 F.2d 62, 82 (D.C. Cir. 1978)); *Ethyl*, 541 F.2d at 26 ("the statute accords the regulator flexibility to assess risks and make essentially legislative policy judgments"); *WWHT*, 656 F.2d at 818 ("The agency's determination is essentially a legislative one, and the reviewing court should do no more than assure itself that the agency acted 'in a manner calculated to negate the dangers of arbitrariness and irrationality.'") (quoting *Action for Children 's Television*, 564 F.2d at 472 n.24); *NRDC v. SEC*, 606 F.2d 1031, 1046 (D.C. Cir. 1979)("An agency's discretionary decision *not* to regulate a given activity is inevitably based, in large measure, on factors not inherently susceptible to judicial resolution. . . .") (emphasis in original).

Petitioners err in contending (Pet. 22-26) that further review is warranted because of the asserted urgency of the environmental issues involved. EPA, and *amici*, have never suggested that global climate change is not an important issue worthy of focused attention in the United States and in the world community. The EPA described in its decision in this case a variety of efforts that the federal government is currently undertaking to "effectively and efficiently address the climate change issue over the long term." Pet. App. at A82-A93. Those efforts, and others that could follow, are better tailored to address this worldwide issue than is the ill-suited regulatory machinery of the Clean Air Act, which could deal with only a small and isolated part of the problem, and ineffectually at that.

CONCLUSION

The decision of the Court of Appeals should be affirmed.

Respectfully submitted,

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APPENDIX A

AMICUS BIOGRAPHICAL INFORMATION

ERNEST L. DAMAN is Chairman *Emeritus* of Foster Wheeler Development Corporation where he previously served as Director of Research and Chairman of the Board. He also held the position of Senior Vice President at the parent company, FWC. He is a Past President of American Society of Mechanical Engineers and was elected to the National Academy of Engineering. Ernest Daman is a Fellow of the Institute of Energy (England) and the American Association for the Advancement of Science, and Past Chairman of the American Association of Engineering Societies. He served on several American Society of Mechanical Engineers committees as member or chairman. Ernest Daman is the author of numerous papers and holds 18 patents. He was responsible for the design and development of a combined steam gas turbine plant, fluidized bed combustion, fast breeder reactor components, supercritical steam generators, environmental control processes, and advanced high-efficiency power generation systems. Ernest Daman received his B.M.E. degree from the Polytechnic Institute of Brooklyn.

TOM A. HENDRICKSON is an independent consultant in the fields of energy, engineering, and technology. His career encompassed service to both government and industry. He was a Senior Executive of Raytheon Federal Engineers & Constructors, developing high technology projects. He was Principal Deputy Assistant Secretary of the Office of Nuclear Energy at the U.S. Department of Energy, where he oversaw programs including: Civilian Reactor Development; the Naval Nuclear Propulsion Program; Uranium Enrichment; Space and Defense Power Systems; Isotope Production; and Nuclear Safety Policy. He later became the Director of the New Production Reactors for the U.S. Department of Energy, responsible for designing and building new tritium production capacity for nuclear weapons; research and development; safety and environmental compliance; and construction. Concurrently, he served as Acting Under Secretary of Energy responsible for all defense and nuclear energy activities

of the department. Early in his career, he served on the staff of the Atomic Energy Commission in Washington, DC. He directed the headquarters staff and contractors involved in submarine nuclear propulsion engineering, including research, development, design, and construction of all new design nuclear powered submarines and land-based prototypes. During this period, he also served as Project Officer for all new submarine developments including the NR-1; the USS Los Angeles SSN-688 class of 62 attack submarines, and the electric drive submarine. He helped with the development of port-entry safety procedures and sea trials of the United States' first nuclear-powered surface ships, the USS Long Beach and the USS Enterprise; as well as the first refueling of the Shippingport Atomic Power Station. He is a member of the American Nuclear Society, the American Society of Mechanical Engineers, and the American Physical Society. Mr. Hendrickson received a B.A. degree in Physics from Harvard College and an M.S. degree in Physics from Georgetown University. He is a licensed Professional Engineer.

NATHAN H. HURT is a consultant in management and engineering with Technical and Management Consulting. He provides services to industrial firms and government agencies involved in environmental clean-up and waste management—both chemical and radioactive. He has extensive experience in the areas of executive management; plant management; engineering management; project management; marketing; and sales. He specializes in the areas of uranium enrichment/production; engineering; development and marketing; plant management of rubber chemicals; petrochemicals; and thermoplastics. He also specializes in the engineering management of synthetic rubber and lattices; vinyl monomers and copolymers; polyesters; U.S. Department of Energy (DOE) weapons plants; quality assurance management; and operational readiness review. Mr. Hurt has been involved with the decommissioning of nuclear facilities. He was the Corporate Sponsor or Program Manager for seven decommissioning contracts at the DOE Complexes in Oak Ridge, TN; and Pinellas, FL. Previously, Mr. Hurt was Director and Project Manager at the Oak Ridge Office of Sharp and Associates, Inc. He was Vice President and Director of Oak Ridge Operations

for IDM Environmental Corp., where he was responsible for the marketing and sales of decontamination, decommissioning, and waste management services. He served as Project Manager for the laboratory quality assurance program at Westinghouse Hanford and at DOE's Rocky Flats Plant. He managed a study for a waste treatment and storage facility at the Portsmouth Area Uranium Enrichment Facility which included incineration and compaction of low-level radioactive wastes. He also worked for Goodyear Tire and Rubber Company, including Goodyear Atomic, as Director of Research and Development, and President, where he was responsible for the operation of the Portsmouth Area Uranium Enrichment Facility. Nathan Hurt is a Past President of the American Society of Mechanical Engineers. He has been a member of: the American Association of Engineering Societies' Board of Governors; the American Institute of Chemical Engineers; and the Institute of Nuclear Materials Management. He is also a member of Tau Beta Pi Honorary Engineering Society; Pi Tau Sigma Honorary Mechanical Engineering Society; he was a member of The Nuclear Engineering Advisory Board of Worcester Polytechnic Institute. Mr. Hurt received a B.S. degree in Mechanical Engineering from the University of Colorado and has done graduate, technical, and management course work at Pennsylvania State University.

KLAUS S. LACKNER joined the faculty of Columbia University in 2001, where he is now the Ewing-Worzel Professor of Geophysics in the Department of Earth and Environmental Engineering. He has been a scientist in the Theoretical Division of Los Alamos National Laboratory since 1983, and also has been part of the Laboratory's senior management. He held several positions, among them Acting Associate Laboratory Director for Strategic and Supporting Research, which represents roughly a third of Los Alamos National Laboratory. Professor Lackner's scientific career started in the phenomenology of weakly interacting particles. He and George Zweig developed the chemistry of atoms with fractional nuclear charge while searching for quarks. He is still participating in matter searches for particles with a non-integer charge in an experiment conducted at Stanford by Martin Perl and his group. After joining Los Alamos National

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No. 05-1120

In The
Supreme Court of the United States

COMMONWEALTH OF MASSACHUSETTS, *et al.*,

Petitioners,

v.

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY,

Respondent.

On Writ Of Certiorari To The United States Court Of Appeals For The District Of Columbia Circuit

BRIEF OF *AMICUS CURIAE* STATE OF DELAWARE IN SUPPORT OF PETITIONERS

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QUESTIONS PRESENTED

1. Whether the EPA erred when it decided that it lacks authority to regulate Greenhouse Gas emissions from non-point automobile sources under Section 202(a)(1) of the Clean Air Act, 42 U.S.C. § 7521(a)(1)?

2. Whether the EPA arbitrarily and capriciously refused to regulate Greenhouse Gases under Section 202(a)(1) of the Clean Air Act, 42 U.S.C. § 7521(a)(1)?

3. Whether Delaware has a particular interest in the prompt federal regulation of Greenhouse Gases?

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CASES: U.S. SUPREME COURT

BedRoc Ltd., L.L.C. v. United States, 541 U.S. 176 (2004) 9

Chevron U.S.A., Inc. v. National Resources Defense Council, 467 U.S. 837 (1984) 7

Diamond v. Chakrabarty, 447 U.S. 303 (1980) 12

FDA v. Brown & Williamson Tobacco Corp., 529 U.S. 120 (2000) 4, 8, 12, 13, 14

Hartford Fire Ins. Co. v. California, 509 U.S. 764 (1993) 24

Murray v. Schooner Charming Betsy, 6 U.S. 64 (1804) 24

PGA Tour v. Martin, 532 U.S. 661 (2001) 12

Weinberger v. Rossi, 456 U.S. 25 (1982) 24

Whitman v. American Trucking Association, 531 U.S. 457 (2001) 11

CASES: U.S. COURT OF APPEALS

American Forest & Paper Ass'n v. EPA, 294 F.3d 113 (D.C. Cir. 2002) 2

Ethyl Corp. v. Environmental Protection Agency, 541 F.2d 1 (D.C. Cir. 1976) 4, 8, 18

Her Majesty the Queen in Right of Ontario v. EPA, 912 F.2d 1525 (D.C. Cir. 1990) 2

Massachusetts v. EPA, 415 F.3d 50 (D.C. Cir. 2005) *reh'g denied*, 433 F.3d 66 (D.C. Cir. 2005) ..... *passim*

Natural Resources Defense Council, Inc. v. EPA, 824 F.2d 1146 (D.C. Cir. 1987) 11

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CONSTITUTIONAL PROVISIONS

U.S. Const. art. VI, cl. 2 24

UNITED STATES STATUTES

Administrative Procedure Act, 5 U.S.C. § 706 17

28 U.S.C. § 1251(b)(2) 2

28 U.S.C. § 1254(1) 2

Clean Air Act, 42 U.S.C. § 7401 *et seq.* ..... *passim*

Energy Policy Act of 1992, 42 U.S.C. § 13201 13

Energy Policy and Conservation Act, 49 U.S.C. §§ 32901-32919 ..... 12, 16

Global Climate Change Research Act of 1990, 15 U.S.C. § 2921 *et seq.* 13

National Climate Program Act of 1978, 15 U.S.C. § 2901 13

STATE STATUTES

Cal. Health & Safety Code § 43018.5(a) 5

13 Cal. Code of Reg. §§ 1900, 1961, 1961.1 6

UNITED STATES REGULATIONS

Control of Emissions from New Highway Vehicles and Engines, 68 Fed. Reg. 52922 (Sept. 8, 2003) 3

COURT RULES

Sup. Ct. R. 37.4 ..... 1, 2

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COURT DOCUMENTS

Complaint, *Association of International Automobile Manufacturers v. Sullivan*, No. 06-69T (D.R.I.) (2006) 6

First Amended Complaint, *Central Valley Chrysler-Jeep, Inc. v. Witherspoon*, No. Civ.-F-04-6663-AWI-LJO (E.D. Cal.) (2004) 6

Complaint, *Green Mountain Chrysler-Plymouth-Dodge-Jeep v. Torti*, No. 2:05-CV-302 (D. Vt.) (2005) 6

LEGISLATIVE HISTORY

Gary S. Guzy, General Counsel of the EPA, Testimony Before a Joint Hearing of the Subcommittee on National Economic Growth, Natural Resources, and Regulatory Affairs of the Committee on Government Reform and the Subcommittee on Energy and Environment of the Committee on Science, U.S. House of Representatives (Oct. 6, 1999) (*available at* http://www.house.gov/science/guzy_100699.htm) (last visited August 22, 2006) 16

OTHER AUTHORITIES

The Columbia Encyclopedia, 6th Ed. (2006) *Delaware* (*available at* http://www.encyclopedia.com/html/D/Delawar-st.asp) (last visited August 28, (2006) 25

TABLE OF AUTHORITIES – Continued

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Delaware Judicial Information System, DELJIS Database (2005) (last visited August 26, 2006) 26

Delaware State Police TraCS System (2005) (last visited August 26, 2006) 26

Michael DuRoss, Planning Supervisor, Delaware Department of Transportation, Division of Planning, *24 Hour Daily or Average Annual Daily Traffic (AADT Report)* (August 22, 2006) 26

Christopher Giovinazzo, *Defending Overstatement: The Symbolic Clean Air Act and Carbon Dioxide*, 30 Harv. Envtl. L. Rev. 99 (2006) 18

Jonathan M. Gregory *et al.*, *Threatened Loss of the Greenland Ice Sheet*, 428 Nature 616 (2004) 25

Hassol, Susan Joy, Arctic Council, *Impacts of a Warming Arctic: Arctic Climate Impact Assessment* 5 (2004) 20

Intergovernmental Panel on Climate Change (IPCC), Working Group I Report, *Climate Change 2001: The Scientific Basis* (2001) (*available at* http://www.grida.no/climate/ipcc_tar/wg1/index.htm) (last visited August 29, 2006) 20, 21

Intergovernmental Panel on Climate Change, *Third Assessment Report* (2001), Working Group II Technical Survey 10

Memorandum from Jonathan Z. Cannon, General Counsel of the EPA, to Carol M. Browner, Administrator of the EPA (April 10, 1998) 15

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Memorandum from Robert E. Fabricant, General Counsel, to Marianne L. Horinko, Acting Administrator, "EPA's Authority to Impose Mandatory Controls to Address Global Climate Change under the Clean Air Act (August 28, 2003) (*available at* http://www.epa.gov/airlinks/co2petitiongcmemo8-28.pdf) (last visited August 22, 2006) 16

National Academy of Sciences, Natural Resources Council, *Climate Change Science: An Analysis of Some Key Questions* (2001) 19, 20, 21, 22, 23

State of Delaware, *Delaware Geography* (2006) (*available at* http://www.state.de.us/gic/delfacts/geo.shtml#elevation) (last visited on August 28, 2006) 25

United Nations Framework Convention on Climate Change, Art. 3, 4; May 29, 1992, U.N. Doc. A:AC.237/18 (1992), reprinted in 31 I.L.M. 849 (1992) 23, 24

U.S. Geological Survey, *Sea Level and Climate* (2000) (*available at* http://pubs.usgs.gov/fs/fs2-00/) (last visited on August 28, 2006) 25

INTEREST OF THE *AMICUS CURIAE*

The State of Delaware is greatly concerned about the impact of global warming on its citizens. As a low-lying coastal state, Delaware experiences daily the effects of global warming. These effects include increased flooding and coastal erosion, increased ocean temperature, and heightened damage to the environment, the property and the people of Delaware.

The Clean Air Act (CAA) provides Delaware with little flexibility in limiting the impact of Greenhouse Gases from motor vehicle emissions. California is the only state granted authority to set emission standards for automobiles. 42 U.S.C. § 7543(a). While Delaware could adopt, pursuant to 42 U.S.C. § 7507, the more stringent standards promulgated by California, the standards would only apply to motor vehicles registered in Delaware. Data indicate that Delaware lacks actual ability to enforce such a regulation over a large portion of the automobiles driving within and traveling through the State, as they are registered in and regulated by sister states. EPA should fulfill its statutory obligation to enforce the provisions of the Clean Air Act in a manner that is protective of the environment of all the states and territories.

AUTHORITY FOR FILING A BRIEF OF *AMICUS CURIAE*

Authority to file this brief is provided under Supreme Court Rule 37.4, which provides in pertinent part that "no motion for leave to file an *amicus curiae* brief is necessary if the brief is presented on behalf of ... a State, Commonwealth,

Territory, or Possession when submitted by its Attorney General." Sup. Ct. R. 37.4.

OPINIONS BELOW

The decision of the Court of Appeals is reported at 415 F.3d 50 (D.C. Cir. 2005). The Court of Appeals' order denying Petitioners' motion for rehearing *en banc* is reported at 433 F.3d 66 (D.C. Cir. 2005).

JURISDICTION

The judgment of the Court of Appeals was entered on August 15, 2005. The Court of Appeals' order denying the petition for rehearing and rehearing *en banc* was entered on December 2, 2005. Jurisdiction in this Court is proper under 28 U.S.C. § 1254(1) and 28 U.S.C. § 1251(b)(2) as an action between the United States and one or more of the several states. Jurisdiction in the Court of Appeals for the District of Columbia was proper under § 307(b)(1) of Clean Air Act, 42 U.S.C. § 7607(b)(1), which grants exclusive authority over "nationally applicable regulations promulgated, or final actions taken, by the Administrator." Denial of a petition is a final agency action for purposes of § 307(b)(1).[1]

[1] *See, e.g., American Forest & Paper Ass'n v. EPA*, 294 F.3d 113 (D.C. Cir. 2002); *Her Majesty the Queen in Right of Ontario v. EPA*, 912 F.2d 1525 (D.C. Cir. 1990).

STATEMENT

In October 1999, the International Center for Technology Assessment (ICTA), along with other concerned organizations, petitioned EPA requesting the agency to promulgate rules that would regulate Greenhouse Gas emissions – emissions of carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and hydrofluorocarbons (HFCs) – from new motor vehicles. ITCA claimed that EPA had the duty to regulate Greenhouse Gases based on the statutory authority contained in § 202(a)(1) of the Clean Air Act which provides that the "Administrator shall prescribe . . . standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7521(a)(1). ICTA noted that EPA had already determined CO_2 to be an air pollutant in a 1998 memorandum authored by the then-General Counsel to EPA, and that the various sections of the CAA create a statutory duty for EPA to regulate Greenhouse Gas emissions from new motor vehicles.

Following a notice and comment period and after reviewing the comments, EPA denied the petition in September 2003. *Control of Emissions from New Highway Vehicles and Engines*, 68 Fed. Reg. 52922-23 (Sept. 8, 2003) [hereinafter CENHVE]. As the basis for denial, EPA asserted that its review of the legislative history and other Congressional enactments led it to conclude that "the CAA does not authorize regulation to address global climate change,"[2] and that if statutory authority does exist to allow

[2] EPA contends that Congress was well aware of global climate change at the time of the last comprehensive amendments to the CAA

(Continued on following page)

regulation of Greenhouse Gases under the CAA, EPA would in any event decline to regulate due to policy considerations. The policy considerations included scientific uncertainty, President Bush's comprehensive global climate change policy, and the potential foreign policy implications of regulating Greenhouse Gases. *Id.* at 52925. In denying the petition, EPA did not follow its statutory duty to prescribe standards to regulate pollutants that "may reasonably be anticipated to endanger public health or welfare."

On a petition for review of EPA's decision, the United States Court of Appeals for the D.C. Circuit delivered a divided opinion which sidestepped the issues of whether Petitioners have standing and whether EPA has the ability to regulate Greenhouse Gas emissions under the CAA. *Massachusetts v. Environmental Protection Agency*, 415 F.3d 50, 56 (2005). Writing for the Court, Judge Randolph assumed *arguendo* these two issues before finding that EPA properly exercised its authority not to regulate Greenhouse Gas emissions under § 202(a)(1) of the CAA, 42 U.S.C. § 7521(a)(1). *Massachusetts v. Environmental Protection Agency*, 415 F.3d at 56. Nor did the Court address EPA's claim that *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 159 (2000) prohibited EPA from taking on a large government program without specific statutory authority. The Court ruled that under its previous decision in *Ethyl*

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and did not specifically authorize regulation at that time. *Id.* at 52926. EPA likewise contends that enactments like the Energy Policy and Conservation Act – which granted authority to regulate fuel economy standards to the Department of Transportation – made clear that Congress was withholding the ability to regulate Greenhouse Gases under the CAA. *Id.*

Corp. v. Environmental Protection Agency,[3] EPA had leeway to consider-"policy decisions" in deciding whether to regulate Greenhouse Gas emissions and that EPA had properly exercised its judgment in denying the petition. *Massachusetts v. EPA*, 458 F.3d at 58.

Judge Sentelle concurred in the judgment of the Court, citing entirely different reasoning. *Id.* at 59 (Sentelle, J. concurring). He opined that Petitioners failed to establish harm sufficiently particularized to themselves to fulfill Article III standing. *Id.* at 59-60. *Amici* State of Delaware agrees with the arguments made in sister *Amici* States' Brief that Petitioners established harm sufficiently particularized to themselves to establish Article III standing.

In dissent, Judge Tatel disagreed with both Judge Sentelle's assertion that Petitioners failed to show a sufficiently particularized injury, *id.* at 64-65, and Judge Randolph's conclusion that EPA has acted properly in denying the petition. The dissent opined that EPA had regulatory authority under § 202(a)(1) of the CAA and that EPA's refusal to regulate was improper insofar as it was not based on the regulatory framework provided in § 202(a)(1) of the CAA. *Massachusetts*, 415 F.3d at 74-82.

Since the denial of the petition by EPA, California has petitioned EPA for a waiver in order to adopt its own emissions standards for motor vehicles, as it is permitted to do under § 209(b) of the CAA, 42 U.S.C. § 7543(b). The California Air Resources Board, pursuant to § 43018.5 of the California Health & Safety Code, promulgated regulations

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[3] *Ethyl Corp. v. Environmental Protection Agency*, 541 F.2d 1 (D.C. Cir. 1979).

setting limits on the amount of Greenhouse Gas emissions that can be released from motor vehicles sold in California starting with model year 2009.[4]

Ten other states (Connecticut, Maine, Massachusetts, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Vermont, and Washington) have so far adopted California's Greenhouse Gas emissions standards pursuant to § 177 of the CAA. 42 U.S.C. § 7507. In December 2004, suit was brought by a group of car manufacturers against the State of California on various grounds including an allegation that EPA's decision that Greenhouse Gas emissions cannot be regulated under § 202(a)(1) of the CAA preempts the California regulation because California cannot adopt standards altogether inconsistent with the CAA.[5] Similar lawsuits have been filed in two other states that adopted California's standards.[6]

SUMMARY OF THE ARGUMENT

The Clean Air Act specifically authorizes EPA to regulate "air pollutants" that endanger public health or "welfare," a term which explicitly includes "climate." Emitted Greenhouse Gases cause global climate change and thereby are included under the substances capable of

[4] *See* 13 Cal. Code of Reg. §§ 1900, 1961, 1961.1 (2005).

[5] *See* First Amended Complaint, *Central Valley Chrysler-Jeep, Inc. v. Witherspoon*, No. Civ.-F-04-6663-AWI-LJO (E.D. Cal.), ¶¶ 9(b), 47-51, 122-23 (2004).

[6] *See* Complaint, *Association of International Automobile Manufacturers v. Sullivan*, No. 06-69T (D.R.I.) (2006); Complaint, *Green Mountain Chrysler-Plymouth-Dodge-Jeep v. Torti*, No. 2:05-CV-302 (D. Vt.) (2005).

regulation under the Clean Air Act. EPA misread the plain and unambiguous language of the Clean Air Act when it determined that it lacked authority to regulate Greenhouse Gas emissions from motor vehicles and motor vehicle engines. EPA's erroneous reading is not entitled to the far-reaching deference granted under *Chevron U.S.A., Inc. v. Natural Resources Defense Council*, because *Chevron* deference is not appropriate when the meaning of the statute is clear. *Chevron U.S.A., Inc. v. Natural Resources Defense Council*, 467 U.S. 837 (1984). Further, in ignoring the language of the statute, EPA did not carry its burden under *Engine Manufacturers Association v. EPA*, 88 F.3d 1075 (D.C. Cir. 1996), to provide an extraordinarily convincing justification that Congress did not intend the plain meaning of the statutory wording. The clear language of § 202(a)(1), coupled with definitions elsewhere in the Act, allow, and in fact require, EPA to regulate Greenhouse Gas emissions from motor vehicles and motor vehicle engines once a finding that Greenhouse Gas emissions may reasonably be anticipated to endanger public health and welfare has been made. *Amici* State of Delaware has an interest in EPA fulfilling its statutory obligation to regulate Greenhouse Gas emissions because, even if Delaware were able to enact its own emission standards (an action currently prohibited under § 177 of the Clean Air Act, 42 U.S.C. § 7507), Delaware would still be greatly impacted by the emissions from out-of-state vehicles traveling within Delaware that are beyond its regulatory reach.

Moreover, EPA acted arbitrarily and capriciously in refusing to regulate Greenhouse Gas emissions from motor vehicles and motor vehicle engines. The CAA requires EPA to utilize the regulatory structure provided under § 202(a)(1) of the Clean Air Act. Instead, EPA chose to rely

upon policy decisions to deny the petition. EPA did not make a finding as to whether Greenhouse Gases "may reasonably be anticipated to endanger the public health or welfare." The only time for EPA to utilize its judgment under § 202(a)(1) of the Clean Air Act is when making a finding as to whether Greenhouse Gas emissions from motor vehicles and motor vehicle engines "may reasonably be anticipated to endanger public health and welfare." As EPA declined to do this, the denial of the petition is arbitrary and capricious. Furthermore, EPA misreads this Court's decisions in *FDA v. Brown & Williamson*, 529 U.S. 120 (2000), and *Ethyl Corp. v. Environmental Protection Agency*, 541 F.2d 1 (D.C. Cir. 1976), as permitting a regulatory agency to rely on policy decisions in lieu of following the unambiguous language of statute.

ARGUMENT

I. THE CLEAN AIR ACT AUTHORIZES EPA TO REGULATE GREENHOUSE GAS EMISSIONS FROM MOTOR VEHICLES.

A. The Unambiguous Language Of § 202(a)(1) Of The Clean Air Act Provides That EPA May Regulate Greenhouse Gas Emissions From Motor Vehicles And Motor Vehicle Engines.

EPA misread the clear language of § 202(a)(1) of the Clean Air Act, 42 U.S.C. § 7521(a)(1), in determining that it does not have the authority to regulate Greenhouse Gas emissions from motor vehicles and motor vehicle engines. EPA's authority to do so is based on the plain and unambiguous language of § 202(a)(1), which states in pertinent part:

> The Administrator shall by regulation prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.

42 U.S.C. § 7521(a)(1).

A court's inquiry into the meaning of a statute begins with the statutory text, and "ends there as well if the text is unambiguous." *BedRoc Ltd., L.L.C. v. United States*, 541 U.S. 176, 183 (2004). The text in the case at bar is unambiguous. Thus, this Court's inquiry into the meaning of § 202(a)(1) is limited to this unambiguous language. A close reading of § 202(a)(1) provides that EPA "*shall* by regulation prescribe . . . standards applicable to the emission of any *air pollutant* from any class or classes of new motor vehicles or new motor vehicle engines, which *in [EPA's] judgment* cause, or contribute to, air pollution which *may reasonably be anticipated to endanger public health* or *welfare*." 42 U.S.C. § 7521(a)(1) (emphasis added).

Greenhouse Gases are "air pollutants" within the meaning of "air pollutants" covered by this section as chemical substances emitted into ambient air:

> The "air pollutants" subject to regulation under § 202 are defined as "any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air."

Clean Air Act § 302(g), 42 U.S.C. § 7602(g).

One of the Greenhouse Gases at issue here, CO_2, is specifically included within the definition of air pollutants. Clean Air Act § 103(g), 42 U.S.C. § 7403(g).

Moreover, "welfare" in this context includes consideration of climate because it is defined as follows:

> "all language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants."

Clean Air Act § 302(h), 42 U.S.C. § 7602(h).

Thus, from the text of § 202(a)(1), and the definitions applicable to that section, it is clear that EPA is authorized to regulate Greenhouse Gas emissions, since Greenhouse Gases are substances emitted into the air that endanger climate.[7]

EPA is delegated the responsibility in addition to the authority to regulate Greenhouse Gases to protect climate.

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[7] In addition to direct effects on "climate," climate change endangers "welfare" through many of the other effects enumerated in § 302(h), including effects on "weather" (e.g., increased storm activity and changes in rainfall or drought patterns), "damage to and deterioration of property," and "effects on crops." Further, emissions that cause climate change endanger "public health" in several ways – e.g., by raising air temperature so as to increase the severity of health-damaging smog episodes. Intergovernmental Panel on Climate Change, *Third Assessment Report* (2001), Working Group II Technical Survey, at 43.

Section 202(a)(1) states that EPA "shall" regulate if it finds that a pollutant "may reasonably be anticipated to endanger public health or welfare." EPA's judgment under this section is limited to whether a pollutant meets the so-called "endangerment standard." Once EPA makes such a finding, EPA has a duty to regulate the pollutant.

In fact, EPA is prohibited from considering factors not expressly mentioned in the statutory delegation. *Whitman v. American Trucking Association*, 531 U.S. 457, 467 (2001). This is true because in choosing the language of governing statutes, Congress carefully imposes important substantive and procedural restraints on agency officials' exercise of their lawmaking authority. These restraints supply the "intelligible principle" necessary to avoid non-delegation doctrine concerns, as well as the "law to apply" necessary for judicial review. *Whitman v. American Trucking Ass'n*, 531 U.S. 472-74, citing *J.W. Hampton, Jr., & Co. v. United States*, 276 U.S. 394, 409 (1928). Thus, the only proper factor EPA can consider under § 202(a)(1) of the CAA is whether the statutory standard has been met. *Natural Resources Defense Council, Inc. v. EPA*, 824 F.2d 1146 (D.C. Cir. 1987).

B. The Counter-Textual Arguments Offered By EPA Are Unconvincing.

Despite the unambiguous language of the statute, EPA makes several strained counter-textual arguments to support its claim that it does not have authority to regulate Greenhouse Gas emissions under § 202(a)(1) of the Clean Air Act – (1) Congress was not concerned with global warming when drafting the CAA; (2) policy reasons necessitate regulation of global pollutants via separate,

specific statutes; (3) Congress's behavior evidences EPA's lack of authority based on *FDA v. Brown & Williamson*; and (4) an interagency conflict exists with the Department of Transportation's fuel economy standards under the Energy Policy and Conservation Act, 49 U.S.C. §§ 32901-32919. *See Massachusetts*, 415 F.3d at 68 (Tatel, J., dissenting). None of these arguments is convincing.

1. Congress Was Concerned With Climate Change And Did Intend To Regulate Greenhouse Gases When Drafting The Clean Air Act.

Congress has in fact been quite specific in demonstrating that effects on "climate" fall within the scope of the Clean Air Act. However, even if this were not the case, this Court has held consistently that an agency can regulate a new subject matter in the absence of proof of specific Congressional intent directed at the particular problem. *See Diamond v. Chakrabarty*, 447 U.S. 303, 314-15 (1980) (rejecting argument that, because genetic technology was unforeseen when broad patent statute was enacted, microorganisms could not be patented until Congress expressly authorized it). This Court has held that "the fact a statute can be applied in situations not expressly anticipated by Congress does not demonstrate ambiguity . . . it demonstrates breadth." *PGA Tour v. Martin*, 532 U.S. 661, 689 (2001).

2. EPA Does Not Need Separate Statutes To Regulate Greenhouse Gases.

Furthermore, each of the statutes cited by EPA as tending to prove that Congress has not manifested an

intent to regulate Greenhouse Gas emissions is actually consistent with EPA having authority to regulate Greenhouse Gases under § 202(a)(1) of the CAA. In fact, these statutes tend to disprove EPA's claim that global pollutants need to be regulated via separate statutes. EPA cites the National Climate Program Act of 1978, 15 U.S.C. § 2901 *et seq.*; the Global Climate Change Research Act of 1990, 15 U.S.C. § 2921 *et seq.*; and Energy Policy Act of 1992, 42 U.S.C. § 13201 *et seq.*, to support this assertion. However, the Global Climate Change Research Act states that "nothing in the Act shall be construed, interpreted or applied to preclude or delay the planning or implementation of any Federal action designed, in whole or in part, to address the threats of stratospheric ozone depletion or global climate change." Global Climate Change Research Act of 1990, 15 U.S.C. § 2938(c). Moreover, none of these acts is a regulatory law; rather, each provides for voluntary Greenhouse Gas emissions reductions. There is nothing inherently inconsistent with Congress providing a mechanism for enforcing reductions of an air pollutant while simultaneously seeking to encourage voluntary reductions.

3. EPA Inappropriately Relied On *FDA v. Brown & Williamson* In Determining It Does Not Have Authority To Regulate Greenhouse Gases.

EPA inappropriately relied on *FDA v. Brown & Williamson* for the proposition that the EPA's having authority to regulate air pollutants associated with climate change would contradict other Congressional enactments. *FDA v. Brown & Williamson* is inapposite because a finding that the word "drug" included tobacco would have

forced the FDA to outlaw all tobacco products. In the case of this petition, finding that the term "air pollutant" within CAA § 302(g) includes CO_2 would only require the EPA to regulate CO_2, not to proscribe its emission. *See Massachusetts*, 415 F.3d at 71 (Tatel, J., dissenting).

Under § 202(a)(1) of the CAA, EPA would only have to set technologically and economically feasible standards – something the agency has done for decades with other pollutants emitted from motor vehicles and motor vehicle engines. Section 202 of the CAA includes protections designed to prevent severe economic impacts from occurring. Section 202(a)(2) of the CAA provides that new emissions standards are to "take effect after such period as the Administrator finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period." Clean Air Act § 202(a)(2), 42 U.S.C. § 7521(a)(2).

Further, *FDA v. Brown & Williamson* concluded that the Food, Drug and Cosmetic Act (FDCA) was unambiguous and that Congress had "directly spoken to the issue here and precluded FDA's jurisdiction to regulate tobacco products." 529 U.S. at 133. Central to the Court's analysis was the fact that the FDA had for 60 years denied that it had authority to regulate tobacco products under the FDCA and that Congress had enacted legislation aimed at regulation of tobacco products. In the case at bar, there is no such parallel Congressional action, nor has EPA consistently denied that it had the ability to regulate Greenhouse Gases.

4. EPA Has In The Past Recognized Its Ability To Regulate Substances Causing Climate Change, Specifically Greenhouse Gases Emitted By Motor Vehicles And Motor Vehicle Engines Under § 202(a)(1) Of The Clean Air Act.

Further undermining EPA's recent contention that it does not have authority to regulate Greenhouse Gases under the CAA is the fact that EPA previously maintained that it had the authority to regulate Greenhouse Gases emitted from motor vehicles and motor vehicle engines. *See* Memorandum from Jonathan Z. Cannon, General Counsel of the EPA, to Carol M. Browner, Administrator of the EPA (Apr. 10, 1998).[8] Months later, Cannon's successor, Gary Guzy, testified before Congress on the impacts of global warming. Gary S. Guzy, General Counsel of the EPA, Testimony Before a Joint Hearing of the Subcommittee on National Economic Growth, Natural Resources, and Regulatory Affairs of the Committee on Government Reform and the Subcommittee on Energy and Environment of the

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[8] On March 11, 1998, Congressman Tom DeLay requested a legal opinion from EPA Administrator Carol Browner on the question of whether the CAA allows the EPA to regulate CO_2 emissions of motor vehicles and motor vehicle engines. In October 1998, Jonathan Cannon, General Counsel for the EPA, prepared the requested legal memorandum, in which he made the threshold determination that CO_2 "is an air pollutant within the meaning of the CAA." *Id.* at 2. Cannon further noted that the EPA's authority to regulate CO_2 is "linked to [a] determination by the Administrator regarding [CO_2's] actual or potential harmful effects on public health, welfare, or environment." *Id.* at 3. In effect, Cannon's stance allowed for the EPA to regulate CO_2 under CAA section 202(a)(1), among other sections, as long as the Administrator concluded that CO_2 "cause[d], or contribute[d] to, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7521(a)(1).

Committee on Science, U.S. House of Representatives (Oct. 6, 1999) (*available at* http://www.house.gov/science/guzy_100699.htm) (last visited Aug. 22, 2006). In fact, EPA took the opposite view for what appears to be the first time in a memorandum by EPA General Counsel released the same day EPA denied the petition. *See* Memorandum from Robert E. Fabricant, General Counsel, to Marianne L. Horinko, Acting Administrator, "EPA's Authority to Impose Mandatory Controls to Address Global Climate Change under the Clean Air Act (August 28, 2003) (*available at* http://www.epa.gov/airlinks/co2petitiongcmemo8-28.pdf) (last visited August 22, 2006).

5. Interagency Conflict With The United States Department Of Transportation Does Not Prohibit EPA From Regulating Greenhouse Gases Emitted From Motor Vehicles And Motor Vehicle Engines.

EPA reasons that it cannot regulate Greenhouse Gases from motor vehicles and motor vehicle engines because the United States Department of Transportation (DOT) was granted the authority to set fuel economy standards under the Energy Policy and Conservation Act, 49 U.S.C. §§ 32901-32919. This contradicts the clear language of the Energy Policy and Conservation Act, which expressly recognizes that motor vehicle standards set by other agencies may affect fuel economy. 42 U.S.C. § 32902(f). The regulatory authority granted to EPA and DOT are not mutually exclusive, and there is, therefore, no Congressional bar overlapping EPA regulation under § 202(a)(1) of the CAA and DOT regulation under the Energy Policy and Conservation Act.

II. EPA'S DECISION NOT TO REGULATE GREENHOUSE GASES WAS ARBITRARY AND CAPRICIOUS.

Not only does EPA have the ability to regulate Greenhouse Gases emitted from motor vehicles and motor vehicle engines, but EPA acted arbitrarily and capriciously, abused its discretion and otherwise acted not in accordance with law in denying the petition requesting EPA to regulate. Administrative Procedure Act § 706, 5 U.S.C. § 706.

Instead of employing the statutory framework, EPA arbitrarily and capriciously substituted its policy concerns for the process established by Congress when it denied the petition. EPA denied the petition on various grounds. One concern was interagency confusion,[9] because it believed that regulating Greenhouse Gases would cut against President George W. Bush's current climate change policy and constitute "piecemeal" regulation of one source of Greenhouse Gas emissions. Also, it believed that a regulatory scheme would not comport with the President's comprehensive approach to climate change that calls for near-term voluntary actions and incentives along with programs aimed at reducing scientific uncertainties and encouraging technological development. EPA also noted that it did not want to disrupt the "public-private partnerships formed to develop break-through technologies that could dramatically reduce the economy's reliance on fossil fuels without slowing its growth." Further, EPA worried that foreign countries might allow Greenhouse Gas emissions to increase if the United States reduced its emissions, thereby

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[9] *See* Part I(B)(5) *infra*.

offsetting any global emission decrease. Cen. Hve., 68 Fed. Reg. at 52925-30.

To support its reliance on policy decisions, EPA relies on *Ethyl Corp. v. EPA*, 541 F.2d 1 (D.C. Cir. 1976) for the proposition that EPA may consider "the sort of policy judgments Congress makes when it decides whether to enact legislation regulating a particular area." *Massachusetts*, 415 F.3d at 58. However, if EPA can ground decisions not to regulate on policy considerations absent from the text of the CAA, *Ethyl* would effectively allow EPA unfettered discretion in making threshold regulatory determinations. *See* Christopher Giovinazzo, *Defending Overstatement: The Symbolic Clean Air Act and Carbon Dioxide*, 30 Harv. Envtl. L. Rev. 99, 148-49 (2006) ("The implication of *Massachusetts v. EPA* is thus that the words 'in his judgment' afford the EPA the discretion to refuse to act on the basis of efficiency, cost, or any other practical concern entirely beyond the narrow endangerment finding"). The *Ethyl* decision does not stand for the proposition that EPA can base rulemaking denials on policy judgments. *See Massachusetts*, 415 F.3d at 76 (Tatel, J., dissenting) ("*Ethyl* makes quite clear that the Administrator's policy-based discretion is limited to the terms of the statute.") Rather, *Ethyl* allows an agency to justify affirmative decisions to regulate on policy decisions, and only if the policy issues taken into account "relate[] to whether the statutory standard ha[s] been met." *Massachusetts*, 415 F.3d at 76 (Tatel, J., dissenting). Applying this *Ethyl* filter to the case at bar reveals that EPA cannot couch its actions in the fabric of *Ethyl* since EPA made a decision not to regulate in this instance.

Congress did not intend EPA to consider such extraneous factors as how regulation of Greenhouse Gases from

mobile sources "interfaces with fuel economy standards," 68 Fed. Reg. at 52929, or differs from the President's climate change policy, *id.* at 52930, in making a judgment as to whether a substance causes, or contributes to, air pollution which may reasonably be anticipated to endanger public health or welfare. The sole question authorized by Congress in making this determination is whether a substance causes or contributes to air pollution that may reasonably be anticipated to endanger public health or welfare.

In fact, only one of EPA's policy considerations, that of scientific uncertainty, speaks to the regulatory structure provided under § 202(a)(1) of the CAA. None of the other factors addresses in any way whether the effects of Greenhouse Gas emissions "may reasonably be anticipated to endanger public health and welfare." 42 U.S.C. § 7521(a)(1).

EPA's reliance on scientific uncertainty in denying the petition is improper. The levels of uncertainty present in the National Academy of Science Report, National Academy of Sciences, Natural Resources Council, *Climate Change Science: An Analysis of Some Key Questions* (2001) [hereinafter *NAS-NRC Report*] are not great enough to cast doubt on the fact that Greenhouse Gas emissions are causing global climate change. The NAS-NRC Report merely recognizes that the scope of climate change is uncertain – it does not challenge the existence of climate change.

A. Scientific Uncertainty Is Not Great Enough To Prevent An Endangerment Finding.

There is not enough uncertainty in the *NAS-NRC Report* and in global climate change science in general to justify EPA's decision to deny the petition in this case. There is adequate evidence in the record, in the form of

reports demonstrating the current state of the science behind global climate change, that the coastal United States, including Petitioners Massachusetts, Rhode Island, Connecticut, New York, and New Jersey as well as *amici* Delaware, will be subject to harm from the effects of global climate change, at least some of which is directly related to Greenhouse Gas emissions of motor vehicles and motor vehicle engines. NAS-NRC Report; Intergovernmental Panel on Climate Change (IPCC), Working Group I Report, *Climate Change 2001: The Scientific Basis* (2001) (*available at* http://www.grida.no/climate/ipcc_tar/wg1/index.htm) (last visited August 29, 2006)[hereinafter *IPCC Report*]. Even ignoring the more dire consequences included in the future climate models suggested by the *IPCC Report*, the *NAS-NRC Report* includes ample evidence of endangerment. There is a 90 percent probability that by 2100, the Earth will warm between 1.7 and 4.9° C, resulting in more frequent heat waves, droughts, and extreme precipitation events. Hassol, Susan Joy, Arctic Council, *Impacts of a Warming Arctic: Arctic Climate Impact Assessment* 5 (2004) [hereinafter *ACIA*].

According to the *NAS-NRC Report* there was a global mean surface air temperature rise of between about 0.7 and 1.5° F during the twentieth century. *NAS-NRC Report* at 3. Such warming is "spatially widespread" and "consistent with the global retreat of mountain glaciers, reduction in snow-cover extent, the earlier spring melting of ice on rivers and lakes, the accelerated rate of rise of sea level during the 20th century relative to the past few thousand years, and the increase in upper-air water vapor and rainfall rates over most regions." *NAS-NRC Report* at 16. The report acknowledges that atmospheric concentrations

of CO_2 are increasing as a result of human activity (*NAS-NRC Report* at 2) and adopts the IPCC conclusion that "most of the observed warming of the last 50 years is likely to have been due to the increase in Greenhouse Gas concentrations accurately reflects the current thinking of the scientific community on the issue." The *NAS-NRC Report* relied upon by EPA shows that, since approximately 7 percent of the Greenhouse Gases released in the United States are released by means of exhaust from motor vehicles, Greenhouse Gas emissions of motor vehicles and motor vehicle engines are, at least in part, directly responsible for global climate change and accompanying harm to Petitioner States. The Petitioner States have been, over the past century, harmed by EPA's failure to regulate Greenhouse Gas emissions from motor vehicles. More importantly, the *NAS-NRC Report* indicates that "even in the more conservative scenarios, the models project temperatures and sea-levels that continue to increase well beyond the end of this century, suggesting that assessments that examine only the next 100 years underestimate the magnitude of the eventual impacts." *NAS-NRC Report* at 5.

Petitioner States Massachusetts, Rhode Island, New York, New Jersey, and Washington are particularly susceptible to the effects of global climate change since, like Delaware, they are located in a middle latitude region, and since "middle and high latitude regions appear to be more sensitive to climate change than other regions, significant impacts in these regions are likely to occur at lower levels of global warming." *NAS-NRC Report* at 21. Petitioner States offered evidence in the form of engineering expert

testimony declaring that estimated future rises in sea levels could engulf coastal land and cause augmented storm surge flooding.

Although the *NAS-NRC Report* declines to state whether there is a "safe" level of Greenhouse Gas emissions because such determination depends both on viewpoint and value judgment (*NAS-NRC Report* at 20) the *Report* concludes that "greenhouse gases are accumulating in Earth's atmosphere as a result of human activities, causing surface air temperatures and subsurface ocean temperatures to rise," (*NAS-NRC Report* at 1) and states that "despite the uncertainties, there is general agreement that the observed warming is real and particularly strong within the past twenty years." *NAS-NRC Report* at 3. Relied on by the EPA, the *Report* concludes that:

> Greenhouse gases are accumulating in Earth's atmosphere as a result of human activities, causing surface temperatures and subsurface ocean temperatures to rise. . . . The changes observed over the past several decades are likely mostly due to human activities, but we cannot rule out that some significant part of these changes are also a reflection of natural variability. Human-induced warming and associated sea-level rises are expected to continue through the 21st century. Secondary effects are suggested by computer model simulations and basic physical reasoning. These include increases in rainfall rates and increased susceptibility of semi-arid regions to drought. The impacts of these changes will be critically dependant [*sic*] on the magnitude of the warming and the rate with which it occurs.

NAS-NRC Report at 1. This conclusion in itself is enough to maintain that EPA made a clear error of judgment in denying the petition. Even from the emphasized level of uncertainty in the *NAS-NRC Report*, it is obvious that there are severe actual and imminent dangers attributed to global climate change. Had EPA not sidestepped the question set out in the statute, it could not have denied that Greenhouse Gas emissions "cause or contribute to" global climate change, which in turn "may reasonably be anticipated to endanger public health and welfare." 42 U.S.C. § 7521(a)(1). EPA has a duty to regulate such emissions.

B. Scientific Uncertainty Is Not A Factor EPA May Use In Making An Endangerment Finding.

The United Nations Framework Convention on Climate Change prohibits EPA from using scientific uncertainty as the basis to deny extending CAA regulation to Greenhouse Gas emissions. United Nations Framework Convention on Climate Change, Art. 3, 4; May 29, 1992, U.N. Doc. A:AC.237/18 (1992), reprinted in 31 I.L.M. 849 (1992).

The Convention states that the signatory nations:

> should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, *lack of full scientific certainty should not be used as a reason for postponing such measures*, taking into account that policies and measures to deal with climate change should be cost-effective

> so as to ensure global benefits at the lowest possible cost.

United Nations Framework Convention on Climate Change, Art. 3 ¶ 3 (emphasis added).

Furthermore, the developed nations "shall adopt national policies and take corresponding measures on the mitigation of climate change, by limiting its anthropogenic emissions of greenhouse gases and protecting and enhancing its greenhouse gas sinks and reservoirs." *Id.* Art. 4 ¶ 4(a).

Ratified treaties, along with the Constitution itself and United States Laws, are the "supreme Law of the Land." U.S. Const. art. VI. Thus an "act of Congress ought never be construed to violate the law of nations if any other possible construction remains . . . " *Murray v. Schooner Charming Betsy*, 6 U.S. 64, 118 (1804); *Weinberger v. Rossi*, 456 U.S. 25, 32 (1982); *Hartford Fire Ins. Co. v. California*, 509 U.S. 764, 814-15 (1993) (Scalia, J., dissenting).

Considering the effect of the United Nations Convention on Climate Change in light of the aforementioned cases, it is clear that EPA is prohibited from using "scientific uncertainty" as a reason to deny the petition in this case.

III. DELAWARE HAS A PARTICULAR INTEREST IN THE PROMPT FEDERAL REGULATION OF GREENHOUSE GASES.

Amici State of Delaware has a particular interest in EPA regulating Greenhouse Gas emissions. In the present action, Delaware has a heightened interest in the effects of

global climate change because it is (1) a middle latitude, low-lying coastal state, and (2) a state that is incapable of regulating Greenhouse Gas emissions from motor vehicles and motor vehicle engines on its own.

Delaware is located between 38 degrees, 27 'N and 39 degrees, 50 'N latitude. Delaware is a small state bordered by the Atlantic Ocean, Delaware Bay, and the States of Maryland, New Jersey, and the Commonwealth of Pennsylvania. Most of the State is in the low-lying Atlantic Coastal Plain. Its highest point is approximately 448 feet above sea level, with its lowest elevation at sea level on its Atlantic Coast. State of Delaware, Delaware Geography (2006) (*available at* http://www.state.de.us/gic/delfacts/geo.shtml# elevation) (last visited August 29, 2006.) Climate scientists warn that the melting of the polar ice sheets could have dire consequences for coastal areas. Jonathan M. Gregory *et al.*, *Threatened Loss of the Greenland Ice Sheet*, 428 Nature 616 (2004). If the current pace of melting continues, the seas will rise 10 or more meters, flooding areas inhabited by 25 percent of the population of the United States. U.S. Geological Survey, *Sea Level and Climate* (2000) (*available at* http://pubs. usgs.gov/fs/fs2-00/) (last visited August 29, 2006.) The Gulf and East Coast states, including Delaware, will experience the brunt of the impacts of global climate change. *Id.* The average elevation of Delaware is a mere 60 feet, or 18 meters, above sea level, The Columbia Encyclopedia, 6th Ed. (2006) *Delaware* (*available at* http://www.encyclopedia.com/html/D/Delawar-st.asp) (last visited August 28, 2006) and a rise in sea levels of 10 meters would be devastating for Delaware. Therefore, it is vitally important to regulate Greenhouse Gases to slow and eventually stop the effects of global warming caused by the atmospheric buildup of such chemical substances.

Delaware is incapable of fully regulating Greenhouse Gas emissions from motor vehicles and motor vehicle engines. According to Delaware Department of Transportation, Division of Planning Databases, Surveys and Records Acquired for and used to support a Travel Demand Model, fully 9.1 percent of all vehicle miles traveled within the State are estimated to be those of out-of-state vehicles (those drivers having one or both of the beginning and end of a trip destination out of state). Michael DuRoss, Planning Supervisor, Delaware Department of Transportation, Division of Planning, *24 Hour Daily or Average Annual Daily Traffic* (*AADT Report*) (August 22, 2006). Moreover, according to the Delaware State Police, 24 percent of vehicles involved in traffic accidents were registered with non-Delaware tags in the year 2005. Delaware State Police TraCS System (2005) (last visited August 26, 2006). Also, 33 percent of traffic arrests within the State of Delaware involved individuals with an out-of-state drivers license. Delaware Judicial Information System, DELJIS Database (2005) (last visited August 26, 2006). These numbers indicate that a very large percentage of automobiles emitting Greenhouse Gases within Delaware are not within Delaware's jurisdictional reach and therefore cannot be regulated by the State. The only way to effectively regulate all of the vehicles traveling in Delaware would be through EPA regulation.

CONCLUSION

For the aforementioned reasons and upon the authorities cited above, the State of Delaware requests an order declaring that EPA has the authority and statutory obligation to regulate Greenhouse Gases emitted by motor

vehicles and motor vehicle engines under § 202(a)(1) of the Clean Air Act.

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IN THE

Supreme Court of the United States

COMMONWEALTH OF MASSACHUSETTS, ET AL.,
Petitioners,
v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.,
Respondents.

On Writ of Certiorari to the United States
Court of Appeals for the District of Columbia Circuit

BRIEF FOR ENTERGY CORPORATION AS *AMICUS CURIAE* IN SUPPORT OF PETITIONERS

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Other Authorities–Continued:

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Joint Brief of Industry Intervernor-Respondent, *Commonwealth of Massachusetts v. EPA*, No. 03-1361, 2005 WL 257457 (D.C. Cir. Jan. 25. 2005)..... 9
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INTEREST OF THE *AMICUS*[1]

This case makes for strange bedfellows. *Amicus curiae* Entergy Corporation ("Entergy"), among the nation's largest owners and operators of electric-generating power plants[2], supports the efforts of States and environmental non-government organizations to require the United States Environmental Protection Agency ("EPA" or the "Agency") to recognize its own current authority to regulate carbon dioxide ("CO_2"), consistent with Congress's express directive in the Clean Air Act, 42 U.S.C. §§ 7401 *et seq.* (the "CAA" or the "Act"). Entergy's position is atypical of an industry largely opposed to CO_2 regulation. This case also presents an atypical agency posture: Instead of over-reaching, EPA has under-reached, and by a country mile.

More specifically, EPA's politically-expedient conclusion that CO_2 is not an "air pollutant" within the meaning of the Act, and hence that EPA lacks any jurisdiction to regulate CO_2 emissions, cannot be reconciled with the plain language of the Act and therefore Congress's intent. The Act's definition of "air pollutant" is broad enough to reach CO_2,

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[1] The parties have consented to the filing of this brief in letters of consent on file with the Clerk. No counsel for any party had any role in authoring this brief, and no one, other than the *amicus curiae*, provided any monetary contribution to its preparation or submission.

[2] Entergy owns or operates approximately 30,000 megawatts of electric-generating capacity including coal-, gas-, oil- and nuclear-powered facilities, hydroelectric dams, and wind-powered projects. Most of these facilities are subject to extensive regulation under the Act, particularly the many provisions applicable to electric-generating facilities.

and the Act elsewhere specifically refers to CO_2 as an air pollutant. Even were the Act somehow ambiguous on the issue of whether CO_2 is an air pollutant, the Act is most naturally read that way, and EPA's effort to exclude CO_2 is unreasonable. Thus, Entergy disagrees with EPA on the narrow question of EPA's statutory authority to regulate CO_2 under the Act.

The instant case, although grounded in emission standards for new motor vehicles under Section 202(a)(1) of the Act, squarely implicates the electric-generating sector's interests, including Entergy's. On February 27, 2006, EPA promulgated New Source Performance Standards ("NSPS") for steam-electric generation units pursuant to Section 111(b)(1)(B) of the Act that exclude any regulation of CO_2, an omission that is the subject of a current appeal before the District of Columbia Circuit. See *Coke Oven Environmental Task Force* v. *EPA*, Nos. 06-1131, -1148, -1149, -1154, -1155 (D.C. Cir.). In that rulemaking, as in the Agency's rulemaking for new motor vehicles at issue here, EPA asserted that it "does not presently have the authority to set NSPS to regulate CO_2 or other greenhouse gases that contribute to global climate change." 71 Fed. Reg. 9869 (Feb. 27, 2006).[3] While the criteria for issuing regulations under Section 202(a)(1) and Section 111(b)(1)(B) may differ, the underlying question of EPA's authority to regulate CO_2 does not. As such, this Court's determination in this case whether EPA has authority with respect to CO_2 likely will have a determinative impact on the outcome in *Coke Oven Environmental Task Force* and on other EPA initiatives that directly affect Entergy and the entire electric-generating industry.

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[3] The District of Columbia Circuit has granted Entergy *amicus curiae* status in support of the petitioners in the *Coke Oven Environmental Task Force* proceeding.

The energy needs of the United States are expected to double over the next 50 years, and Entergy and its fellow industry members need to plan—and act—now for the strategic capital investments—viewed on a 25-year horizon—that will be necessary to meet this increased demand. Entergy seeks certainty with respect to the regulatory regime it must operate under, and does not believe that EPA's current position on CO_2 regulation will stand the test of time. Not only is that position contrary to the plain language of the Act, but EPA scientists, joined by the National Academy of Scientists (commissioned by the Bush Administration) and the vast majority of the world scientific community, have each concluded that the threat of climate change, while not certain in all of its details, is legitimate. As EPA has recognized, climate change associated with CO_2 emitted by human activities, including power plant operations and motor vehicles, is "'likely to have wide-ranging and mostly adverse impacts on human health, with significant loss of life.'" See U.S. Environmental Protection Agency, Global Warming and our Changing Climate, EPA 430-F-00-011 (April 2000) (quoting Intergovernmental Panel on Climate Change). Given this scientific crescendo and the environmental threat at issue, it is unlikely that EPA will successfully avoid regulating CO_2 emissions for long.

Entergy further believes that the nation's increasing energy demand needs to be met by dependable power generation that substantially reduces or eliminates CO_2 emissions. This will happen, not through the voluntary emissions reduction programs that a select few (such as Entergy) have put into place, but only if proper incentives to limit CO_2 emissions, *e.g.*, price signals relevant to the continued emission of CO_2, are established. At the moment, EPA has chosen instead to preserve the historic energy-generation patterns that contributed to the current environmental threat. EPA's refusal to recognize its authority

to regulate CO_2 fails to appropriately incentivize the development of environmentally responsible power generation to satisfy the nation's energy demand.

EPA's refusal also may compromise this nation's primacy in energy-sector research and development and, therefore, the industry's future. United States leadership in innovative power-production technology rests on the long-held perception that American technology is the gold standard. This perception would be at risk if the nation lags others in developing emission-free power production. Absent CO_2 regulation, the industry lacks the requisite motivation to provide this global leadership.

Finally, Entergy is far less sanguine than EPA about the prospect of this nation's air-quality decisions being decided by the international community. Entergy prefers the considerable safeguards of the CAA rulemaking process, which provides for participation by interested parties sensitive to this nation's needs and fosters (through judicial review under the Administrative Procedures Act) decisions grounded in sound scientific debate. The international debate offers no comparable guarantees, and therefore none of the security of the American rulemaking process.

SUMMARY OF ARGUMENT

On the surface, this case concerns Section 202(a)(i) of the Act, which authorizes EPA to set standards "applicable to the emission of *any air pollutant* from any class or classes of new motor vehicles or new motor vehicle engines," which, in EPA's "judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." See 42 U.S.C. § 7521(a)(1) (emphasis added). Thus, EPA's *authority* to regulate CO_2 turns on whether CO_2 is an "air pollutant" under the Act, and EPA's decision

whether to regulate CO_2 turns on whether the criteria of Section 202(a)(1) have been met.

Until recently, EPA has recognized its authority to regulate CO_2 as an "air pollutant" under the Act. In a precipitous reversal, however, EPA has disavowed that authority based upon the implausible legal contention that CO_2 emissions are not air pollutants under the Act, a contention the Agency grounds in a strained reading of its own authority under the Act and in the suspect contention that United States environmental policy should await international direction. See 68 Fed. Reg. 52922, 52933 (Sept. 8, 2003); see also 71 Fed. Reg. 9869 (Feb. 27, 2006). Entergy disagrees with EPA on both grounds.

Legislation may not invariably reflect Congress's clear intent, but with respect to EPA's authority to regulate CO_2 as an air pollutant, Congress has been both clear and precise. The definition of the term "air pollutant" in Section 302(g) of the Act, which includes "any physical, chemical, biological . . . substance or matter which is emitted into or otherwise enters the ambient air," is sufficiently broad to encompass CO_2. See 42 U.S.C. § 7602(g). Indeed, Section 103(g) of the Act expressly refers to CO_2 as an air pollutant. See *id.*, § 7403(g)(1). Absent violence to the plain language of the statute in a manner incompatible with *Chevron U.S.A., Inc.* v. *Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984), and its progeny, EPA cannot surgically excise CO_2 from the definition of air pollutant under the Act.

Should this Court conclude that the term "air pollutant" is ambiguous as used in Section 302(g) of the Act, EPA's own equivocal history on whether CO_2 is an air pollutant suggests that deference is particularly inappropriate here. See *INS* v. *Cardoza-Fonseca*, 480 U.S. 421, 447 & n.30 (1987). Even affording EPA deference, the Agency's counterarguments fall flat. Contrary to EPA's argument (and among the other

arguments addressed herein), Congress has not made this nation's air-quality policy subject to prior international accord. Even if it had, the international community largely has reached an accord, in the Kyoto Protocol, that favors CO_2 regulation. In any event, the definition of air pollutant in the Act antedates the climate change debate, and thus cannot have informed Congressional thinking with respect to the breadth of EPA's authority to regulate CO_2. Thus, EPA's position is doubly unreasonable—simultaneously incorrect and anachronistic.

For these reasons, Entergy supports Petitioners' request for remand with this Court's direction to EPA to regulate CO_2 emissions pursuant to the Agency's clear statutory authority.

ARGUMENT

I. Carbon Dioxide is an Air Pollutant Within the Plain Meaning of the Clean Air Act.

At its heart, this case concerns the meaning of "air pollutant" in the Act, and in particular whether "air pollutant," as defined by the Act, includes CO_2. EPA concluded that CO_2 is not an air pollutant. Entergy, however, believes that this Court need look no further than the Act's plain language to see that CO_2 is an "air pollutant" within the meaning of the Act. See, *e.g.*, *Chevron*, 467 U.S. at 843 & n.9 ("If a court, employing traditional tools of statutory construction, ascertains that Congress had an intention on the precise question at issue, that intention is the law and must be given effect").

A. Air Pollutants Include Any Substance or Matter that Enters the Ambient Air, Including Carbon Dioxide.

As defined by the Act, "air pollutant" means:

> any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air. Such term includes any precursors to the formation of any air pollutant, to the extent the Administrator [of EPA] has identified such precursor or precursors for the particular purpose for which the term 'air pollutant' is used.

42 U.S.C. § 7602(g).

Parsing this statutory language, "air pollutant" is defined as synonymous with "air pollution agent or combination of such agents." *Ibid.* "Air pollutant" and "air pollution agent" are then further defined to include "*any* physical, chemical, biological . . . substance or matter which is emitted into or otherwise enters the ambient air." *Ibid.* (emphasis added).

It is difficult to conceive of a broader definition for air pollutant: It captures "*any* . . . substance or matter" put into the "ambient air." *Ibid.* There is no legitimate argument, and EPA does not assert, that CO_2 is not a "physical [or] chemical . . . substance or matter which is emitted into or otherwise enters the ambient air." *Ibid.* Accordingly, under the plain language of Section 302(g) of the Act, CO_2 is an air pollutant.

Were there any doubt, it would be dispelled by Section 103(g) of the Act. That section instructs EPA to conduct a research program that includes an evaluation of "[i]mprovements in non-regulatory strategies and technologies for preventing or reducing multiple *air pollutants, including . . . carbon dioxide.*" 42 U.S.C. § 7403(g)(1) (emphasis added).[4] Thus, Congress itself

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[4] EPA, in its final rulemaking, misconstrued the text of Section 103(g)(1), suggesting that Congress had distinguished CO_2 from air pollutants, when in fact that section explicitly refers to CO_2 *as* an

expressly has referred to CO_2 as an air pollutant within the Act. The "normal rule of statutory construction" is that "identical words used in different parts of the same act are intended to have the same meaning." See *Desert Palace, Inc.* v. *Costa*, 539 U.S. 90, 101 (2003) (internal quotation marks and citations omitted). There is no indication in Section 103(g)(1) that Congress intended "air pollutant" to mean something different than it meant in Section 302(g).

In short, given the broad language in Section 302(g) and the specific reference to CO_2 as an air pollutant in Section 103(g), Entergy submits that CO_2 is an air pollutant within the plain meaning of the Act.

B. Carbon Dioxide Causes Air Pollution Within the Meaning of the Act.

In its final rulemaking, EPA asserted that CO_2 is not an "air pollutant" because, in EPA's judgment, climate change does not constitute "air pollution" within the meaning of the Act, and therefore CO_2 is not an "air pollution agent." See, *e.g.*, 68 Fed. Reg. at 52928.

This argument is meritless for the simple reason, explained above, that "air pollution agent" is itself defined within the Act to include "*any* physical [or] chemical . . . substance or matter which is emitted into or otherwise enters the ambient air." 42 U.S.C. § 7602(g). This Court has repeatedly interpreted the word "any," including as used in the Clean Air Act, to have an expansive meaning. See, *e.g.*, *Harrison* v. *PPG Indus., Inc.* 446 U.S. 578, 588–89 (1980) ("we agree with the petitioners that the phrase, 'any other final action,' in the absence of legislative history to the

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air pollutant. See 68 Fed. Reg. at 52926 (describing Section 103(g) as calling for research into "several air pollutants *and* CO_2," and into "CO_2 *as well as* several specified air pollutants" (emphases added)).

contrary, must be construed to mean exactly what it says, namely, *any other* final action" (emphasis in original)); see also *New York* v. *EPA*, 443 F.3d 880, 885–87 (D.C. Cir. 2006) (rejecting EPA interpretation of the Act that "would make Congress's use of the word 'any' insignificant if not superfluous" (internal quotation marks and citation omitted)).

In addition, the Act nowhere defines "air pollution." However, because the phrase "any physical, chemical, biological . . . substance or matter which is emitted into or otherwise enters the ambient air" is an included exemplary subset of "air pollution agent," it is a logical and linguistic imperative that the term "air pollution agent," for purposes of the Act, is even broader than that subset definition. See 42 U.S.C. § 7602(g); see also *Chickasaw Nation* v. *United States*, 534 U.S. 84, 89 (2001) (reciting dictionary definition: "to include is to contain or comprise *as part* of a whole" (emphasis added; internal quotation marks and citation omitted)).

Respondents have suggested that Congress could not really have intended the Act to cover "*any* physical, chemical, biological . . . substance or matter which is emitted into or otherwise enters the ambient air," including CO_2, because under such a broad definition even baseballs thrown into the air are at risk of being regulated under the Act. See Joint Brief of Industry Intervernor-Respondent, *Commonwealth of Massachusetts v. EPA*, No. 03-1361, 2005 WL 257457, *10 (D C. Cir. Jan. 25. 2005). Our national pastime is not at risk, however, as the *regulation* of air pollutants, such as CO_2, requires EPA first to find sufficient evidence of a possible endangerment to public health or welfare—*e.g.*, either under Section 202 or Section 111—a result EPA is unlikely to reach in the case of tossed baseballs. That said, EPA has long acknowledged, and routinely exercises, its authority to classify as "air pollutants" man-made material—including material that is not inherently harmful or dangerous. For

instance, the regulated air pollutant "particulate matter" consists simply of solids of a particular size and configuration, the dispersion of which in the environment in certain quantities can cause visibility impairment and other negative environmental and health effects. See, *e.g.*, 42 U.S.C. § 7407(d)(4)(B) (discussing designated nonattainment areas for particulate matter-10); see also 36 Fed. Reg. 1502 (Jan. 30, 1971) ("Particulate matter refers to any matter dispersed in the air, whether solid or liquid, in which the individual particles are larger than small molecules but smaller than 500 microns"). Thus, a baseball, or the dust emitted by a slide into second base, may be an air pollutant, albeit one unlikely to be regulated, at least by EPA.

Assuming, however, for purposes of argument, that "air pollution" has some narrower meaning, it nonetheless remains clear that CO_2 is an "air pollution agent," and hence an "air pollutant," within the meaning of the Act.

1. *The Act Specifically Describes Climate Change as an Effect of Air Pollution.*

Under the Act, EPA is required to regulate air pollutants emitted, *e.g.*, from automobiles, "which in [the Administrator's] judgment cause, or contribute to, *air pollution* which may reasonably be anticipated to endanger public health or *welfare*." 42 U.S.C. § 7521(a)(1) (emphases added). In 1970, the Act was amended specifically to provide that "[a]ll language referring to effects on *welfare includes ... effects on ... weather ... and climate*." 42 U.S.C. § 7602(h) (emphasis added). Thus, Congress specifically and in plain language equated "air pollution" and "effects on ... climate." Under EPA's reading of the Act, it can only consider the effect of an emission on "climate," and hence on human welfare, if the emission is already considered an "air pollutant" for some other, non-climate-related reason. This would, for no apparent reason, leave unregulated some

emissions endangering human welfare through effects on climate, a danger that Congress has explicitly directed EPA to address. See 42 U.S.C. §§ 7521(a)(1), 7602(h). Such a reading of the Act is not only unsupported by the text, it requires this Court to disregard an unequivocal Congressional directive.

2. *The Plain Meaning of "Air Pollution" Includes Emissions that Cause Climate Change.*

In ordinary parlance, "pollution" means:

> [t]he action of polluting, or condition of being polluted; defilement; uncleanness or impurity caused by contamination (physical or moral). *spec.* The presence in the environment, or the introduction into it, of products of human activity which have harmful or objectionable effects.

Oxford English Dictionary (2nd ed. 1989).[5]

Similarly, the rulemaking at issue notwithstanding, EPA routinely defines air pollution in a broad manner, including in policy statements relating to emissions linked to climate change. See, *e.g.*, EPA Office of Policy: Inventory of U.S.

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[5] See also Random House Dictionary of the English Language (2nd ed. 1987) (defining pollution as "1. the act of polluting or the state of being polluted. 2. the introduction of harmful substances or products into the environment: *air pollution.*"); American Heritage Dictionary (4th ed. 2000) (defining pollution as "1. The act or process of polluting or the state of being polluted, especially the contamination of soil, water, or the atmosphere by the discharge of harmful substances. 2. Something that pollutes; a pollutant or a group of pollutants: *Pollution in the air reduced the visibility near the airport.*"); Black's Law Dictionary (7th ed. 1999) (defining air pollution as "[a]ny harmful substance or energy emitted directly or indirectly into the air, esp. if the harm is to the environment or to the public health or welfare").

Greenhouse Gas Emissions and Sinks. Annex T: Glossary (defining "air pollution" as "[o]ne or more chemicals or substances in high enough concentrations in the air to harm humans, other animals, vegetation, or materials. Such chemicals or physical conditions (such as excess heat or noise) are called air pollutants")[6]; see also EPA Terms of Environment: Glossary, Abbreviations and Acronyms (defining "air pollution" as "[t]he presence of contaminants or pollutant substances in the air that interfere with human health or welfare, or produce other harmful environmental effects").[7] Furthermore, EPA has approved the state implementation plans of many States that also define air pollution in a broad manner that would include CO_2.[8]

In light of these definitions, there can be no real debate that CO_2 emissions into the ambient air from human activities (such as burning fossil fuels), to the extent they do cause climate change, would constitute "air pollution" as that phrase is commonly understood. EPA's own statements are sufficient to illustrate this point. See, *e.g.*, EPA, Global

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[6] Available at http://iaspub.epa.gov/trs/trs_proc_qry.alphabet?p_term_nm=A&p_reg_auth_id=1&p_data_id=20023&p_version=1 (last visited on Aug. 30, 2006).

[7] Available at http://www.epa.gov/OCEPAterms/aterms.html (last visited on Aug. 29, 2006).

[8] See, *e.g.*, US Environmental Protection Agency, State Implementation Plans, available at, http://www.epa.gov/region5/air/sips/index.html (providing, for example, Illinois definition of "air pollution" and "air contaminant" respectively as "the presence in the atmosphere of one or more air contaminants in sufficient quantities and of such characteristics and duration as to be injurious to human, plant, or animal life, to health or to property, or to unreasonably interfere with the enjoyment of life or property" and "any solid, liquid, or gaseous matter, any odor, or any form of energy, that is capable of being released into the atmosphere").

Warming-Climate: Uncertainties (stating that "[g]lobal warming poses real risks" and "[s]cientists have identified that our health, agriculture, water resources, forests, wildlife and coastal areas are vulnerable to the changes that global warming may bring").[9] Indeed, it strains credulity to argue that CO_2 emissions do not have "harmful or objectionable effects" or "harmful environmental effects" given the Administration's own "ambitious goal" of cutting the intensity of such emissions by the U.S. economy; if this "ambitious goal" were unconnected to human health or welfare, it would do nothing more than try the nation's patience.[10]

3. *Congress and EPA Have Elsewhere Referred to Carbon Dioxide Emissions and Resulting Climate Change as Air Pollution.*

If the text of the Act and the commonplace meaning of "air pollution" were not plain enough, Congress repeatedly has described CO_2 emissions in other environmental and climate-change legislation as air pollution, often citing the effect of such emissions on the global climate. Thus, Congress has expressly stated:

> The Congress finds as follows: (1) [T]here exists evidence that manmade *pollution* – the *release of carbon dioxide . . . into the atmosphere* – may be producing a long term and substantial increase in the average temperature on Earth . . . .

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[9] Available at http://yosemite.epa.gov/OAR/globalwarming.nsf/content/ClimateUncertainties.html (lasted visited on August 30, 2006)

[10] See U.S. Department of State, Action on Climate Change, Energy and Sustainable Development (July 8, 2005), available at http://www.state.gov/g/oes/rls/fs/49266.htm.

Foreign Relations Authorization Act, Fiscal Years 1988 and 1989, Pub. L. 100-204, § 1102(1), 101 Stat. 1331, 1408 (1987) (emphasis added).

Tellingly, in P.L. 105-276 (1998), Congress prohibited EPA from issuing regulations implementing the Kyoto Protocol, which would have restricted signatory nations' emissions of CO_2.[11] While it cannot be denied that Congress can and does engage in acts of political speech, P.L. 105-276 suggests that Congress believed that EPA had existing authority to implement the Kyoto Protocol's restrictions on CO_2 emissions. Such authority, of course, would be found in the Act.

Other statutes compelling ongoing climate-change research also support EPA's authority to regulate CO_2 under the Act. For instance, in 1990, Congress passed the Global Change Research Act of 1990 ("GCRA") to provide for the development and coordination of a comprehensive and integrated United States research program "that will assist the Nation and the world to understand, assess, predict, and respond to human-induced and natural processes of global change." Pub. L. No. 101-606, § 101(b), 104 Stat. 3096, 3097 (1990). The GCRA provides:

> Nothing in this title shall be construed, interpreted, or applied to preclude or delay the planning or implementation of any Federal action designed, in

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[11] Veterans Affairs and HUD Appropriations Act, 1999, Pub. L. 105-276, 112 Stat. 2461, 2496 (1998) ("none of the funds appropriated by this Act shall be used to propose or issue rules, regulations, decrees, or orders for the purpose of implementation, or in preparation for implementation, of the Kyoto Protocol"). Of course, this language only limits EPA's authority to implement the Kyoto Protocol; the statute does not otherwise restrict EPA's ability to issue regulations under the Act if the statutory criteria for such regulation are satisfied.

> whole or in part, to address the threats of stratospheric ozone depletion *or global climate change*.

Id. at § 108(c), 104 Stat. at 3102 (emphasis added). Such a savings clause would have been unnecessary if, as EPA asserts, agents of global climate change, such as CO_2, could not be regulated under the CAA.

In short, enacted legislation resoundingly reflects Congress's assumption that EPA has authority to regulate CO_2 emissions.

C. The History of Amendments to the Act Further Supports EPA's Authority to Regulate Carbon Dioxide.

The history of amendments to the Act further supports the conclusion that the Act provides EPA authority to regulate CO_2. As noted above, in 1970, the Act was amended to provide that effects on "weather" and "climate" are to be considered in judging whether an emission endangers human welfare. See *supra* at 10.

In 1977, the definition of "air pollutant" in the Act was amended from "an air pollution agent or combination of such agents" to "any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive ... substance or matter which is emitted into or otherwise enters the ambient air." See Clean Air Act Amendments of 1977, Pub. L. 95-95, § 301(c), 91 Stat. 685, 770 (1977). The House Committee Report issued in connection with the 1977 amendments explained:

> [T]he Clean Air Act is *the comprehensive vehicle* for protection of the Nation's health from air pollution. *In the committee's view, it is not appropriate to exempt certain pollutants or certain sources from the comprehensive protections afforded by the Clean Air Act.*

H.R. Rep. No. 95-294, at 42, 1977 U.S.C.C.A.N. 1077, 1120 (1977) (emphasis added) ("1977 House Committee Report").

In 1990, Congress again amended the definition of "air pollutant," clarifying that "precursors to the formation of any air pollutant" also constitute air pollutants "to the extent the Administrator [of EPA] has identified such precursor or precursors for the particular purpose for which the term 'air pollutant' is used." See 42 U.S.C. § 7602(g). In other words, EPA's authority extends even beyond emissions that themselves constitute air pollutants. The 1990 amendment underscores the breadth of EPA's authority.[12]

D. EPA's Parade-of-Horribles Argument Does Not Detract from the Plain Meaning of the Act.

In arguing against recognizing CO_2 as an air pollutant within the plain meaning of the Act, EPA has asserted that, despite all contrary indications, Congress cannot have meant for CO_2 to be an "air pollutant" because the political and economic impact of regulating CO_2 would be too severe, and the science surrounding CO_2 emissions is still uncertain. See 68 Fed. Reg. at 52928.

Of course, the status of a substance as an "air pollutant" subject to EPA's authority does not mean that regulations for such a substance are automatically mandated. Rather, the Agency's obligation to promulgate regulations for air pollutants, such as CO_2, is triggered when the requisite

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[12] This broad assignment of authority to EPA to regulate precursors is likewise consistent with Congress's intent, expressed while preparing the 1977 amendments to the Act, to "emphasize the preventative or precautionary nature of the act, *i.e.*, to assure that regulatory action can effectively prevent harm before it occurs; to emphasize the predominant value of protection of public health." 1977 House Committee Report, H. Rep. No. 95-294 at 49, 1977 U.S.C.C.A.N. at 1127.

criteria, set forth in various parts of the Act, are satisfied, including in this case EPA's judgment that the pollutants "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7521(a)(1). Under the Act, EPA possesses the flexibility to regulate air pollution in a cost-effective manner. Consequently, EPA's parade-of-horribles argument is both irrelevant on its face and meritless in fact, and should not be permitted to distract from the relatively simple plain-language question before the Court.[13]

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[13] Not having participated in the underlying rulemaking effort, Entergy does not address herein whether particular criteria requiring specific regulations under Section 202 for emission standards for new motor vehicles or engines have been satisfied. Entergy does believe, however, that the requisite criteria for issuing a NSPS for CO_2 emissions from electric utility steam generation units, enumerated in Section 111 of the Act, have been satisfied. See 42 U.S.C. § 7411(b)(1)(A) (requiring EPA to regulate stationary sources, i.e. any "building, structure, facility, or installation which emits or may emit any air pollutant," that, in the Administrator's judgment "caus[e], or contribut[e] *significantly to*, air pollution which may reasonably be anticipated to endanger public health or welfare") (emphasis added). The criteria for issuing regulations under Section 111 are more stringent than those applicable under Section 202(a), which requires EPA to establish standards for the emission of air pollutants that the Administrator, in his judgment, determines "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." See 42 U.S.C. § 7521(a)(1). Thus, the criteria for regulation under Section 202(a) are a subset of the criteria applicable to stationary sources under Section 111.

II. EPA'S Conclusion that Carbon Dioxide is Not an Air Pollutant under the Clean Air Act is Unreasonable.

Should this Court conclude that CO_2's status as an "air pollutant" within the meaning of the Act is ambiguous, the question becomes whether EPA is entitled to deference on this issue, and whether EPA's interpretation of the Act, under which CO_2 is not a pollutant, is reasonable. See *Chevron*, 467 U.S. at 843; see also *Gonzales* v. *Oregon*, 126 S.Ct. 904, 908 (2006) ("*Chevron* deference ... is not accorded merely because the statute is ambiguous and an administrative official is involved"). Entergy submits that the answer to both questions is no. Any deference due to EPA is diminished by EPA's abandonment of the earlier opinion of two EPA general counsels that CO_2 is a pollutant within the meaning of the Act. Whatever level of deference is granted EPA, the grounds for the Agency's decision that CO_2 is not a pollutant under the Act are unreasonable.

A. This Court Should Not Defer to EPA's Change in Policy Concerning its Own Jurisdiction.

While deference is normally accorded an agency in interpreting an ambiguous statute that the agency is charged with administering, agency inconsistency in interpreting a statute is grounds for a reviewing court to take a harder look at the reasonableness of the agency interpretation. See *Good Samaritan Hospital* v. *Shalala*, 508 U.S. 402, 417 (1993) ("the consistency of an agency's position is a factor in assessing the weight that position is due"). As this Court stated in *Cardoza-Fonseca*, 480 U.S. at 446 n.30, "[a]n agency interpretation of a relevant provision which conflicts with the agency's earlier interpretation is entitled to

considerably less deference than a consistently held agency view" (internal quotation marks and citation omitted).[14]

In this case, any deference owed EPA's interpretation of "air pollutant" is diminished by EPA's reversal of an earlier conclusion at the highest levels—the prior opinions of two EPA general counsels—that CO_2 is an air pollutant within the meaning of the Act, in favor of the opinion of EPA's new general counsel that CO_2 is not. See 68 Fed. Reg. at 52925 ("Two EPA General Counsels previously . . . found that CO_2 meets the CAA definition of 'air pollutant'"). Thus, this case is worlds removed from the typical case in which a purported "change" in agency position is actually an evolution, instead of a revolution, in policy, in light of pertinent new information.

A brief history underscores the starkness of the change in policy at issue here. In an April 10, 1998 memorandum, then-General Counsel Jonathon Cannon responded to a request from Rep. Tom DeLay for EPA's position on whether CO_2 is an air pollutant under the Act.[15] General Counsel Cannon

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[14] In addition to concerns over the relative accountability of Article III judges and Article I agencies, the precept of deference rests on the twin assumptions that regulatory expertise matters and that an agency's thoughtful application of law warrants favor. See, *e.g.*, *Pension Benefit Guaranty Corporation* v. *LTV Corp.*, 496 U.S. 633, 651–652 (1990) ("[P]ractical agency expertise is one of the principal justifications behind *Chevron* deference"). Both of these precepts are appropriately diminished where the agency's opinion on a straightforward question of statutory construction going to the scope of its authority varies for politically expedient reasons.

[15] At a hearing before the House Appropriations Committee, Congressman DeLay challenged a statement by EPA, in a document entitled "Electricity Restructuring and the Environment: What Authority Does EPA Have and What Does it Need," that EPA had authority under the Act to regulate CO2 emissions. In response, then-EPA Administrator Carol Browner testified that she

concluded that it is. See Memorandum from Robert E. Fabricant, General Counsel, EPA, to Marianne Horinko, Acting EPA Administrator, at 2 (Aug. 28, 2003) ("Fabricant Memo."). Subsequently, on October 6, 1999, then-General Counsel Gary Guzy, focusing on the statutory language, reaffirmed General Counsel Cannon's answer in testimony before Congress. See *id.* at 3.

EPA's legal position suddenly changed on August 28, 2003, when General Counsel Robert Fabricant volunteered the opposite conclusion on this very question of statutory interpretation, despite the absence of any supporting change in the underlying science or in the text of the Act. See Fabricant Memo. at 4. General Counsel Fabricant attempted to justify his changed opinion as being a response to this Court's decision in *FDA* v. *Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000). As he explained the reversal of EPA's position, *Brown & Williamson* required a revaluation of the authority granted by Congress to EPA to regulate CO_2. See Fabricant Memo. at 4.

As explained further herein, that supposed basis for reconsidering the definition of "air pollutant" within the meaning of the CAA is dubious at best—the facts in *Brown & Williamson* bear no resemblance to the circumstances of this case. See *infra* at 24–25. Rather, it is clear that General Counsel Fabricant's new opinion simply reflected a change in agency policy away from regulating CO_2. The Act's definition of air pollutant, however, is straightforward, and the Act does not explicitly provide for any Agency discretion in determining whether a particular emission is an "air pollutant." See *supra* at 6–8. Agency discretion instead appears in judging which air pollutants endanger human "health or welfare" and thus should be the subject of

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agreed with the document's statement. Congressman DeLay then asked EPA for a formal legal opinion on the subject.

regulation by EPA. See 42 U.S.C. § 7411(b)(1)(A), and in the exact structure of any resulting regulatory program. Whatever EPA's ability to change its mind on *those* issues as a matter of policy or in light of changed facts, one would not expect variation in the answer to the basic question of what Congress meant by "any physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air." 42 U.S.C. §7602(g).

Deference to EPA's new position on the meaning of "air pollutant" is also inappropriate for two additional reasons. First, deference to an agency interpretation is strongest when the agency construes the act contemporaneously with its passage. See, *e.g.*, *General Electric Co.* v. *Gilbert*, 429 U.S. 125, 142 (1976). Here, EPA is construing the CAA decades after its passage, and in a manner inconsistent with its own prior interpretation. Second, deference to an agency is properly diminished where the question is the scope of the agency's authority. As this Court aptly put it in *Addison* v. *Holly Hill Fruit Prods., Inc.*, 322 U.S. 607, 616 (1944), "[t]he determination of the extent of authority given to a delegated agency by Congress is not left for the decision of him in whom authority is vested." This common-sense approach has been confirmed by numerous circuit courts in the post-*Chevron* era. See, *e.g.*, *Northern Illinois Steel Supply Co.* v. *Secretary of Labor*, 294 F.3d 844, 846–47 (7th Cir. 2002); *New York Shipping Ass'n, Inc.* v. *Fed. Mar. Comm'n*, 854 F.2d 1338, 1363 (D.C. Cir. 1988); *Bolton* v. *Merit Syst. Prot. Bd.*, 154 F.3d 1313, 1316 (Fed. Cir. 1998).

In summary, because EPA has, without a sound legal basis, changed its position on the interpretation of a basic statutory phrase that is unrelated to EPA's discretion under the Act, but is related to the Agency's jurisdiction, this Court should grant little—if any—deference to EPA's current position.

B. EPA's Interpretation of the Act is Unreasonable.

In interpreting the Act's definition of "air pollutant" to exclude CO_2, EPA made a number of interpretive errors. Viewing these errors both individually and as a whole, it is clear that EPA's interpretation of the Act was unreasonable.

1. *EPA's Reliance on Diplomatic Considerations Was Unreasonable.*

EPA's justification of its interpretation of the Act by reference to negotiation of the Kyoto Protocol is especially troubling. See 68 Fed. Reg. at 52927. According to EPA, it is somehow relevant, in interpreting language placed in the Act in the 1960s and 1970s, that in 1998 the Senate passed a resolution stating that the U.S. should not be a signatory to the Kyoto Protocol, if the Protocol would harm the U.S. economy or failed to mandate "specific, scheduled commitments to limit or reduce GHG emissions for developing countries." *Ibid.*

Nowhere in the Act, however, is there any suggestion that whether an emission constitutes an "air pollutant" within the meaning of the Act depends upon the treaty obligations of foreign states. The inappropriateness of EPA's attempt to read the current state of diplomatic play into the Act's definition of "air pollutant" is clear both as a matter of first principles, and in light of this Court's recent decision in *Whitman v. American Trucking Associations, Inc.*, 531 U.S. 457 (2001). In that case, the precise question was whether EPA could consider compliance costs in declining to issue National Ambient Air Quality Standards ("NAAQS"). In rejecting arguments that ambiguous wording in the statute granted EPA such discretion, the Court noted:

> Just as we found it highly unlikely that Congress would leave the determination of whether an industry will be entirely, or even substantially, rate-regulated to

> agency discretion—and even more unlikely that it would achieve that through such a subtle device as permission to 'modify' rate-filing requirements, so also we find it implausible that Congress would give to the EPA through these modest words the power to determine whether implementation costs should moderate national air quality standards.

Id. at 468 (internal quotation marks and citation omitted). The Court went on to note that implementation compliance cost is "so indirectly related to public health *and* so full of potential for canceling the conclusions drawn from direct health effects that it would surely have been expressly mentioned ... had Congress meant it to be considered" in deciding whether to issue NAAQS. *Id.* at 469.

This Court's statements concerning implementation cost in *American Trucking* are even more apt here. EPA can point to *no* language—let alone ambiguous language of the sort found insufficient in *American Trucking*—to justify its consideration of the vagaries of diplomacy in determining whether CO_2 is an "air pollutant." Like cost, foreign policy considerations are both "indirectly related to public health" and "full of potential for canceling conclusions drawn" from public health and welfare analysis. The status of CO_2 as an air pollutant within the meaning of the Act does not vary based upon whether the governments of developing countries have committed by treaty to regulate CO_2. Simply put, there is no basis under the Act to permit the environmental policies of foreign governments, from Afghanistan to Zimbabwe, to bear on the interpretive question whether CO_2 is an air pollutant within the meaning of the Act. Cf. *Roper* v. *Simmons*, 543 U.S. 551, 624 (2005) (Scalia, J., dissenting) (in interpreting U.S. Constitution, "the basic premise ... that American law should conform to the laws of the rest of the world—ought to be rejected out of hand").

As if this were not clear enough, Congress has explicitly provided in the Act that U.S. environmental regulations shall not be forestalled because of potential impacts on or from emissions in foreign countries. See, *e.g.*, 42 U.S.C. § 7509a(2) (providing that the EPA Administrator may approve state implementation plans even if such plans do not demonstrate attainment and maintenance of relevant NAAQS provided that the submitting State can establish that the plan would be adequate but for "emissions emanating from outside of the United States"). Thus, there is no credible legal basis for EPA's limiting its authority to regulate CO_2 emissions based on the purportedly unresolved international debate.

2. *EPA's Argument that the Act Does Not Specifically Provide for Regulation of Carbon Dioxide is Meritless.*

Ignoring the Act's definition of "air pollutant," EPA contends that the Act only allows the study of CO_2, but does not specifically provide for CO_2's regulation. According to EPA, if Congress had wished to have EPA regulate CO_2, it would have enacted specific statutory provisions governing CO_2, as it did for ozone-destroying agents. See 68 Fed. Reg. at 52926. Otherwise, EPA frets—in an argument based almost entirely on the non-analogous facts present in *Brown & Williamson*—that it may enact regulations imposing broad economic and political impacts without a direct mandate from Congress. See *id.* at 52925–26.

In *Brown & Williamson*, this Court considered substantial evidence, in the form of enacted legislation, that Congress did not wish to ban the sale of tobacco products. 529 U.S. at 137–39. No comparable history exists here. EPA relies on proposed legislation that was *not* enacted, see 68 Fed. Reg. at 52927–28, but such reliance as a basis for interpreting an earlier enacted statute is sorely misplaced. See *United States* v. *Craft*, 535 U.S. 274, 287 (2002) ("failed legislative

proposals are a particularly dangerous ground on which to rest an interpretation of a prior statute") (internal quotation marks and citation omitted).[16] EPA also relies on the existence of legislation specifically calling for the *study* of the effects of CO_2 emissions. See 68 Fed. Reg. at 52926. Congress's call for the study of an emission, however, is not inconsistent with an intention that the emission should be regulated under existing legislation if the study shows that the Act's trigger for regulation (EPA's judgment that the emission endangers public health or welfare) is met. The mandate, instead, easily can be viewed as Congress spurring the agency toward action in a matter already committed to the agency's authority.

In any event, as noted above the Act specifically provides that "[a]ll language referring to effects on welfare includes ... effects on ... weather ... and climate." 42 U.S.C. § 7602(h). Thus, the Act already contains explicit authority for the regulation of emissions shown to impact "weather ... and climate," as CO_2 is alleged to do. EPA asserts that Congress should have spoken more clearly, but Congress has spoken as clearly as possible; EPA has simply, and inexplicably, chosen not to listen.

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[16] The proposals referenced by Respondents, which would have set CO_2 emissions standards for passenger cars and for vehicles that use low-polluting fuels, actually support Petitioners' contention that EPA has the authority to regulate CO_2. The suggested language did not specifically assign EPA the authority to regulate CO_2, but instead, assuming that such authority existed, set specific regulations that were deemed warranted based on the effects of CO_2. See, *e.g.*, S. Rep. No. 101-228, at 98–101, 1990 U.S.C.C.A.N. 3385, 3483–86 (1990).

3. *EPA's Consideration of the Feasibility of Regulation was Improper.*

In determining that CO_2 is not an air pollutant, EPA also asserted that regulation of CO_2 under the Act is not feasible. See 68 Fed. Reg. at 52927 ("In assessing the availability of CAA authority to address global climate change, it is also useful to consider whether the NAAQS system . . . could be used to effectively address the issue"). EPA's interpretation, under which the feasibility of regulating an emission is pertinent to whether that emission is an "air pollutant" in the first place, is an unreasonable reading of the Act.

The plain error in EPA's position is confirmed by various provisions of the Act, including the very provision at issue. Congress specifically addressed feasibility concerns, not through the definition of "air pollutant," but elsewhere in the Act.[17] For example, the Act addresses potential feasibility concerns associated with regulations under Section 202(a)(1) by providing that any such regulation shall:

> take effect after such period as the [EPA] Administrator finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period.

42 U.S.C. § 7521(a)(2).

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[17] EPA's interpretation of the term "air pollutant," under which feasibility of regulating a particular emission under the CAA can be considered in determining whether that emission is an "air pollutant," has the potential to render these other provisions of the CAA mere surplusage, and for that additional reason is improper. See *Dunn* v. *Commodity Futures Trading Comm'n*, 519 U.S. 465, 472 (1997) ("legislative enactments should not be construed to render their provisions mere surplusage").

Similarly, the definition of "standard of performance" applicable to stationary sources, including Entergy's electric-generating facilities, provides:

> The term "standard of performance" means a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.

42 U.S.C. § 7411(a)(1). As this definition makes clear, whether something is an air pollutant does not depend upon "the degree of emission limitation achievable" (or the "cost of achieving such reduction"). Those considerations bear instead on the form of any standard of performance enacted with respect to an emission already determined to be an air pollutant. See also 42 U.S.C. § 7409(b)(1).

The Act's NAAQS provisions also demonstrate that the feasibility of regulating a particular emission is irrelevant to that emissions status as an "air pollutant." In the context of NAAQS, the Act calls for EPA to publish a list of air pollutants for which EPA "plans to issue air quality criteria under this section":

> For the purpose of establishing national primary and secondary ambient air quality standards, the Administrator shall within 30 days after December 31, 1970, publish, and shall from time to time thereafter revise, a list which includes each air pollutant - (A) emissions of which, in his judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare; (B) the presence of which in the ambient air results from

> numerous or diverse mobile or stationary sources; and (C) for which air quality criteria had not been issued before December 31, 1970 but for which he plans to issue air quality criteria under this section.

42 U.S.C. § 7408(a)(1). As this section confirms, whether or not EPA ultimately decides to "issue air quality criteria under this section" for a given emission—a decision in which EPA may exercise reasonable judgment—has no bearing on whether that emission is an "air pollutant" in the first place. Air pollutants that EPA plans to regulate are simply a subset of all air pollutants as defined by the Act.[18]

Even as a matter of common sense, the feasibility of successfully regulating the effects of a particular substance has no bearing on whether that substance is, in fact, an air pollutant. Under EPA's reading of the Act, it can avoid the hard work of considering how to regulate certain emissions simply by declaring them not to be pollutants in the first place. It is as if, to escape the trouble of disciplining an unruly child, a parent insisted that the child's behavior was flawless. Such an interpretive sleight-of-hand finds no refuge in the text of, or policies underlying, the Act.

EPA's reliance on feasibility is not only flawed statutory interpretation, it is unsound policy. Technological innovation is spurred by incentives, and governmental regulation is one, often significant, incentive to the development of pollution-control technology. EPA's conclusion that certain pollutants can be ignored would only help to lock in place the *status quo* and inhibit technological innovation, effectively undermining the economics of solving the climate change dilemma.

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[18] EPA's proposed statutory construction lacks visceral appeal viewed even from EPA's perspective, as requiring EPA in advance to establish the feasibility of regulation would complicate the otherwise straightforward process of adding air pollutants.

CONCLUSION

For the foregoing reasons, this Court should remand this rulemaking to the EPA with instructions to appropriately exercise its authority to regulate CO_2 emissions under the CAA.

Respectfully submitted,

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COMMONWEALTH OF MASSACHUSETTS, *et al.*,
Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, *et al.*,
Respondents.

On Writ of Certiorari to the United States Court of Appeals For the District of Columbia Circuit

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BRIEF OF THE NATIONAL COUNCIL OF THE CHURCHES OF CHRIST IN THE U.S.A., CHURCH WORLD SERVICE, AND NATIONAL CATHOLIC RURAL LIFE CONFERENCE AS AMICI CURIAE IN SUPPORT OF PETITIONERS

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OTHER AUTHORITIES

Brookings Institution, Metropolitan Policy Program, *New Orleans After the Storm: Lessons from the Past, a Plan for the Future* (2005) 12

Center for Health and the Global Environment, Harvard Medical School, *Climate Change Futures: Health, Ecological and Economic Dimensions* 53 (2005)..... 10

Centers for Disease Control, *Heat Related Deaths — United States, 1999-2003* (July 28, 2006) 13

Susana Conti et al., *Epidemiologic Study of Mortality During the Summer 2003 Heat Wave in Italy*, 98 Envtl. Research 390 (2005) 13

Amanda Covarrubias, *California Heat Wave Deaths Prompt Health Study*, L.A. Times, Aug. 3, 2006 13

Shaila Dewan et al., *Evacuees' Lives Still Upended Seven Months After Hurricane*, N.Y. Times (Mar. 22, 2006) 12

TABLE OF AUTHORITIES—Continued

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James B. Elsner, *Evidence in Support of the Climate Change: Atlantic Hurricane Hypothesis*, 33 Geophysical Research Letters ___ (forthcoming 2006) 10

EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2004* (2006) 3

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Andrew K. Githeko et al., *Climate Change and Vector-Borne Diseases: A Regional Analysis*, 78 Bull. World Health Org. 1136 (2000) 11

Intergovernmental Panel on Climate Change, *Third Assessment Report, Climate Change 2001: Impacts, Adaptation, and Vulnerability* (2001)..... *passim*

Thomas R. Knutson & Robert E. Tuleya, *Impact of CO2-Induced Warming on Simulated Hurricane Intensity and Precipitation: Sensitivity to the Choice of Climate Model and Convective Parameterization*, 17 J. Climate 3477 (2004) 10

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M.E. Mann & K.A. Emanuel, *Atlantic Hurricane Trends Linked to Climate Change*, 87 Eos 233 (2006) 10

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Norman Meyers, *Environmental Refugees: An Emergent Security Issue*, Organization for Security and Cooperation in Europe, 13th Economic Forum, Prague (May 22, 2005) 13

Millennium Ecosystem Assessment, *Ecosystems and Human Well-Being: Desertification Synthesis* (2005) 12

P.C.D. Milly et al., *Increasing Risk of Great Floods in a Changing Climate*, 415 Nature 514 (2002) 10

Nat'l Oceanic & Atmospheric Admin., *NOAA Reviews Record-Setting 2005 Atlantic Hurricane Season: Active Hurricane Era Likely to Continue* (updated Apr. 13, 2006) 10

Geoff O'Brien et al., *Climate Change and Disaster Management*, 30 Disasters 64 (2006) 11, 14, 17

Naomi Oreskes, *The Scientific Consensus on Climate Change*, 306 Science 1686 (2004) 9

Stacey Plaisance, *Those Who Fled Katrina on Own Did Better*, Chi. Trib., Aug. 14, 2006 12

Cass R. Sunstein, *Risk and Reason: Safety, Law, and the Environment* 103 (2002) 18

Kevin E. Trenberth & Dennis J. Shea, *Atlantic Hurricanes and Natural Variability in 2005*, 33 Geophysical Research Letters L12704 (2006) 10

U.N. Framework Convention on Climate Change, Subsidiary Body for Implementation, *Report on National Greenhouse Gas Inventory Data from Parties Included in Annex I to the Convention for the Period 1990–2003*, U.N. Doc. FCCC/SBI/2005/17 (Oct. 12, 2005) 5

TABLE OF AUTHORITIES—Continued

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U.N. Framework Convention on Climate Change, Subsidiary Body for Implementation, *Sixth Compilation and Synthesis of Initial National Communications from Parties Not Included in Annex I to the Convention, Inventories of Anthropogenic Emissions by Sources and Removals by Sinks of Greenhouse Gases*, U.N. Doc. FCCC/SBI/2005/18/Add.2 (Oct. 25, 2005) 5

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IN THE

Supreme Court of the United States

OCTOBER TERM, 2006

No. 05-1120

COMMONWEALTH OF MASSACHUSETTS, *et al.*,
Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, *et al.*,
Respondents.

On Writ of Certiorari to the United States Court of Appeals For the District of Columbia Circuit

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BRIEF OF THE NATIONAL COUNCIL OF THE CHURCHES OF CHRIST IN THE U.S.A., CHURCH WORLD SERVICE, AND NATIONAL CATHOLIC RURAL LIFE CONFERENCE AS AMICI CURIAE IN SUPPORT OF PETITIONERS

Amici Curiae submit this brief with the written consent of all parties filed with the Clerk of the Court.[1]

INTEREST OF AMICI CURIAE

Amicus NATIONAL COUNCIL OF THE CHURCHES OF CHRIST IN THE U.S.A. is the principal ecumenical organization in the United States with 35 Protestant, Orthodox, and Anglican member denominations with a com-

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[1] Mr. George LaPlante provided a monetary contribution toward the preparation of this brief.

bined membership of more than fifty million Christians in nearly 140,000 congregations nationwide. Through the National Council, member denominations join in a common witness through ministries of faith, education, public witness, and justice. While the National Council does not purport to speak for all members of its constituent denominations, it does speak for its policy-making body, the General Assembly, whose 350 members are selected by those denominations.

In 1988, concern about the impact of fossil fuel combustion on global climate prompted the National Council and other religious groups to convene in Washington, D.C. to begin to address climate change. Since then, the National Council and other faith groups have considered the moral issues presented by climate change through the lens of long-standing social teaching and have adopted numerous policy statements calling for an immediate response to this serious threat.

Founded in 1946, Amicus CHURCH WORLD SERVICE (CWS) is an ecumenical relief, development, and refugee assistance ministry of 35 Protestant, Orthodox, and Anglican denominations. Working in partnership with indigenous organizations in some 80 countries, CWS supports sustainable self-help development, meets emergency needs, aids refugees, and helps address the root causes of poverty and powerlessness. CWS has responded to many disasters — hurricanes, floods, droughts, and wildfires — that are exacerbated by climate change.

Since its founding in 1923, Amicus NATIONAL CATHOLIC RURAL LIFE CONFERENCE (NCRLC) has served as a prophetic voice for rural communities and for care of the land on which they depend. NCRLC believes that globalization and global environmental issues, including climate change, place even greater demands on NCRLC to fulfill its mission of supporting and empowering rural people. Therefore, NCRLC advocates for policies that will protect God's creation and God's children from

the threat posed by climate change, which is already affecting the farmers and rural communities with which NCRLC works.

As described further below, consistent with their spiritual, ethical, and material interests, Amici and their member religious organizations support immediate action to stem the emissions that contribute to climate change. Apart from their moral commitment to ameliorating needless human suffering, Amici's direct and indirect participation in humanitarian relief efforts gives them a tangible institutional interest in mitigating climate change.

SUMMARY OF ARGUMENT

As a source of potentially grievous harm, anthropogenic climate change stands out in the long history of humanity's affronts to our fellow humans and to our environment. A warming climate will cause or aggravate a host of "natural" disasters, such as hurricanes, droughts, floods, disease epidemics, and wildfires. These disasters have serious consequences for much of humanity, but they threaten most acutely the powerless segments of society: the poor, the sick, the landless and homeless. Indeed, the record-setting 2005 hurricane season that produced the tragedies of Katrina and Rita foreshadows a future of unabated climate change.

Because of this threat, and based on the Christian tenets of stewardship for the natural world and solicitude for the most vulnerable members of the human community, Amici have joined a growing number of people of faith to support concerted action to control emissions of greenhouse gases such as carbon dioxide. As a group, motor vehicles comprise one of the primary sources of those gases in the United States.[2] Section 202(a)(1) of the Clean

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[2] *See* EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2004* fig.ES-16, 3-3 tbl.3-3, 3-8 tbl.3-7 (2006), *available at* <http://yosemite.epa.gov/oar/globalwarming.nsf/

Air Act gives Respondent United States Environmental Protection Agency (EPA) authority to regulate those emissions.

In the decision challenged here, EPA refused to adopt such regulation. In doing so, it bypassed the inquiry prescribed by Congress in section 202(a)(1), *viz.*, whether motor vehicle emissions of greenhouse gases contribute to pollution that "may reasonably be anticipated to endanger public health or welfare."[3] In fact, the disasters characteristic of an anthropogenically warmed climate threaten the survival and well-being — and thus the "health" and "welfare" — of millions of people in the United States and abroad.

EPA ignored these and other potentially serious hazards of climate change. Instead, its decision asserts, in addition to a passel of irrelevant considerations, that climate change involves too much scientific uncertainty. But uncertainty alone cannot justify inaction. To decide rationally whether climate change may "endanger public health or welfare," EPA must consider the harm that would result if the risk of climate change, however uncertain, is realized. EPA failed to do so and thus misapplied section 202(a)(1).

ARGUMENT

I. BASED ON THE TENETS OF THEIR SPIRITUAL TRADITION, AMICI CONTEND THAT WE MUST ACT NOW TO COMBAT CLIMATE CHANGE.

Recognizing that anthropogenic climate change is already having adverse impacts on both humanity and the natural world, Amici submit that it is our responsibility to take action to mitigate our contributions to the changing

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UniqueKeyLookup/RAMR6MBSC3/$File/06_Complete_Report.pdf>.

[3] 42 U.S.C. § 7521(a)(1).

climate. Followers of the Judeo-Christian tradition are called to be responsible, just stewards of the Earth and the abundant resources that it makes available, today and for future generations.[4] Amici therefore contend that we must reduce our substantial contributions to climate change to protect the world entrusted to us.

The specter of climate change extends beyond the natural resources, species, and ecosystems for which we are asked to be stewards. As described in Part II, unchecked climate change promises widespread dislocation and suffering for humanity, particularly for those who already struggle for their survival. Christian ethics preaches love of our fellow humans as ourselves,[5] and more particularly, care and compassion for those who are the most vulnerable and needy.[6] These principles provide an independent justification for Amici's call for immediate action to limit our contributions to climate change and its attendant human tragedies.

Though the problem of climate change is plainly global in both cause and effect, we in the United States bear a special responsibility. As our affluence makes the United States the greatest contributor to the problem of climate change,[7] so too must we be the greatest contributor to the solution.[8]

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[4] *See Genesis* 2:15, 9:12.

[5] *See Matthew* 22:39; *Mark* 12:31-33.

[6] *See, e.g., Matthew* 19:21, 25:34-40; *Luke* 14:13-14.

[7] *See* U.N. Framework Convention on Climate Change, Subsidiary Body for Implementation, *Report on National Greenhouse Gas Inventory Data from Parties Included in Annex I to the Convention for the Period 1990–2003*, 14 tbl.4, U.N. Doc. FCCC/SBI/2005/17 (Oct. 12, 2005), *available at* <http://unfccc.int/resource/docs/2005/sbi/eng/17.pdf>; U.N. Framework Convention on Climate Change, Subsidiary Body for Implementation, *Sixth Compilation and Synthesis of Initial National Communications from Parties Not Included in Annex I to the Convention, Inventories of Anthropogenic Emissions by*

Amici therefore have joined the many members of the religious community who have expressed grave concern about unmitigated climate change. In May 2001, Amici joined 41 heads of major denominations and other senior religious leaders in issuing a collective statement that climate change threatens "the future of God's creation on earth; the nature and durability of our economy; our public health and public lands; the environment and quality of life we bequeath our children and grandchildren. We are being called to consider national purpose, not just policy."[9] Likewise, in a November 2002 statement (reiterated in 21 state-level statements in 2003, 2004, and 2005), Amici and senior religious leaders from a diverse array of Christian and Jewish denominations and groups stated,

> We are deeply distressed by evidence that . . . [g]lobal greenhouse gas emissions are projected to increase average temperatures by 2.5 to 10.4 degrees Fahrenheit into the next century — bringing rising seas, weather and agricultural disruptions, floods, refugees, migrating diseases and other dislocations which most harm the planet's poor and vulnerable. The United States contributes 25% of these world emissions.[10]

Sources and Removals by Sinks of Greenhouse Gases, 7-8 tbl.1, U.N. Doc. FCCC/SBI/2005/18/Add.2 (Oct. 25, 2005), *available at* <http://unfccc.int/resource/docs/2005/sbi/eng/18a02.pdf>.

[8] *See Luke* 12:48.

[9] *Let There Be Light: Energy Conservation and God's Creation* (2001), *available at* <http://www.protectingcreation.org/documents/LetThereBeLight.html>.

[10] Interfaith Climate and Energy Campaign, *An Open Letter to U.S. Automobile Companies* (2002), *available at* <http://www.coejl.org/action/FinalOpenLetter11_18_02.pdf>.

Many other Christian groups and leaders have expressed similar concerns in urging action to mitigate climate change.[11]

Amici believe that time is of the essence in responding to climate change. Section 202(a)(1) of the Clean Air Act gives EPA the authority to control emissions from motor vehicles, one of the most significant sources of greenhouse gases. Given the severe consequences of unabated climate change, EPA should have exercised that authority in response to the rulemaking petition.

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[11] *See, e.g.*, H.E. Archbishop Celestino Migliore, Apostolic Nuncio, Permanent Observer of the Holy See to the United Nations, *Statement at the High-level Segment of the 14th Session of the Commission on Sustainable Development of the Economic and Social Council* (May 11, 2006), *available at* <http://www.holyseemission.org/11May2006%20CSD.html>; Conference of Catholic Bishops, *Global Climate Change: A Plea for Dialogue, Prudence, and the Common Good* (2001), *available at* <http://www.usccb.org/sdwp/international/globalclimate.htm>; Evangelical Climate Initiative, *Climate Change: An Evangelical Call to Action* (2006) (subscribed by 86 evangelical Christian leaders), *available at* <http://www.christiansandclimate.org/statement>; 75th General Convention of The Episcopal Church, *Response to Global Warming* (June 2006), *available at* <http://www.ncrlc.com/episcopal_global_warming.html>; United Methodist Church, General Conference 2004, *Concern for Climate Change* (May 3, 2004), *available at* <http://archives.umc.org/Calms/petition.asp?mid=2886&Petition=1027&test=true>; Reformed Church in America, *Climate Change* (1993), *available at* <http://www.nrpe.org/issues/i_air/air_mainline01.htm>; World Council of Churches, *A Spiritual Declaration on Climate Change Made by Faith Community Participants during the United Nations Climate Change Conference (COP11 and COP/MOP1)* (Dec. 4, 2005), *available at* <http://www.wcc-coe.org/wcc/what/jpc/climatechange-cop11.html>.

II. EPA ERRED IN IGNORING THE HAZARDS THAT CLIMATE CHANGE POSES FOR "PUBLIC HEALTH OR WELFARE."

If allowed to proceed apace, climate change will cause and aggravate severe storms, droughts, floods, wildfire, and disease epidemics and thus will precipitate a variety of humanitarian crises. The burdens of these disasters would weigh most heavily on those who already struggle for survival. By multiplying and magnifying disasters, climate change also would interfere with the relief work that Amici and other humanitarian organizations implement and support.

In "declining" to adopt standards under section 202(a)(1) of the Clean Air Act for motor vehicle emissions of greenhouse gases, EPA ignored these hazards. Instead, it based its denial of the rulemaking petition on a variety of irrelevant "policy" considerations and a generic complaint that the science of climate change involves too much uncertainty. As Petitioners demonstrate, it was error for EPA to rely on "policy" factors beyond those enshrined in the statute.[12] Likewise, uncertainty, without more, does not demonstrate that climate change cannot "reasonably be anticipated to endanger public health or welfare."[13] To properly apply this "endangerment" standard, EPA should have considered what peril awaits if the putative uncertainty recedes and reveals climate change to be harmful. An uncertain harm is not the same as no harm at all, and EPA misapplied section 202(a)(1) by treating it as such.

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[12] *See* Brief for the Petitioners at 35-48.

[13] 42 U.S.C. § 7521(a)(1).

A. Climate Change Threatens to Exacerbate Human Suffering, Particularly for the Most Vulnerable.

As more fully described in the amicus brief submitted by eighteen climate scientists, only *de minimis* debate persists in the scientific community about the fact of climate change and the significant contribution that human emissions of greenhouse gases, including motor vehicle emissions, make to that change.[14] Evidence is likewise accumulating to show that climate change is beginning to affect natural and human communities and that those effects are likely to grow worse with continuing unchecked emissions of greenhouse gases.[15] The science paints a sobering picture of a world fundamentally transformed for the worse by a warming climate.

Climate change poses a dramatic threat to a host of species and ecosystems around the world. But a warming climate also gravely threatens human communities and particularly those living closest to the edge of survival, such as the poor, the homeless, and inhabitants of marginal lands. Climate change will also push more of humanity toward that edge. These effects are tragedies in the making, and crucially, tragedies of our own making.

Beyond causing a general increase in average global temperature, climate change will produce more extreme

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[14] *See* Brief of Amici Curiae Climate Scientists David Battisti et al. in Support of Petitioners; *see also, e.g.*, Naomi Oreskes, *The Scientific Consensus on Climate Change*, 306 Science 1686 (2004) (reviewing abstracts for 928 peer-reviewed articles on climate change published in scientific journals between 1993 and 2003 and finding none that disputes the existence of that change or the anthropogenic contribution to it).

[15] *See* Intergovernmental Panel on Climate Change, *Third Assessment Report, Climate Change 2001: Impacts, Adaptation, and Vulnerability* (2001) (hereinafter "IPCC"), *available at* <http://www.grida.no/climate/ipcc_tar/wg2/index.htm>.

weather events.[16] A significant and growing body of evidence suggests that warming oceans have already begun to intensify hurricanes and tropical storms,[17] and indeed, 2005 set numerous records for such storms.[18] Beyond tropical storms, more severe weather also entails an increase in extreme precipitation events and a greater risk of flooding in many parts of the world.[19] Paradoxically, changing weather patterns simultaneously threaten to cause or worsen catastrophic droughts and potentially exacerbate desertification in some regions.[20] Climate models also predict more severe and longer summer heat waves.[21]

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[16] *See* IPCC, *supra* note 15, at 458-60.

[17] *See* James B. Elsner, *Evidence in Support of the Climate Change: Atlantic Hurricane Hypothesis*, 33 Geophysical Research Letters ___ (forthcoming 2006); Thomas R. Knutson & Robert E. Tuleya, *Impact of CO2-Induced Warming on Simulated Hurricane Intensity and Precipitation: Sensitivity to the Choice of Climate Model and Convective Parameterization*, 17 J. Climate 3477 (2004); M.E. Mann & K.A. Emanuel, *Atlantic Hurricane Trends Linked to Climate Change*, 87 Eos 233 (2006); Kevin E. Trenberth & Dennis J. Shea, *Atlantic Hurricanes and Natural Variability in 2005*, 33 Geophysical Research Letters L12704 (2006).

[18] *See* Nat'l Oceanic & Atmospheric Admin., *NOAA Reviews Record-Setting 2005 Atlantic Hurricane Season: Active Hurricane Era Likely to Continue* (updated Apr. 13, 2006), <http://www.noaanews.noaa.gov/stories2005/s2540.htm>.

[19] *See* IPCC, *supra* note 15, at 38, 205-06, 459-60; P.C.D. Milly et al., *Increasing Risk of Great Floods in a Changing Climate*, 415 Nature 514 (2002).

[20] *See* IPCC, *supra* note 15, at 206-07, 460, 519.

[21] *See* Center for Health and the Global Environment, Harvard Medical School, *Climate Change Futures: Health, Ecological and Economic Dimensions* 53-54 (2005), <http://www.climatechangefutures.org/pdf/CCF_Report_Final_10.27.pdf>; IPCC, *supra* note 15, at 397-98, 457-58.

Climate change's effects reach beyond the weather. Warmer spring and summer temperatures are likely to increase the frequency and intensity of wildfires.[22] Further, a warmer climate and changing precipitation patterns will encourage the spread of infectious diseases such as malaria, by both expanding the range in which they currently occur and allowing them to thrive in regions previously inhospitable to them, including parts of the United States.[23]

These manifestations of a warming climate have potentially dire consequences for humanity. Their most devastating consequences, however, are reserved for the poor, the homeless and landless, and inhabitants of marginally productive lands.[24] Those with the most tenuous grasp on survival are least able to adapt to changing circumstances and new risks.[25]

Hurricanes Katrina and Rita powerfully illustrated the destruction and disruption that severe storm activity can cause and their unequal distribution within and among communities. Such storm events can kill, injure, and leave homeless countless victims and can cripple the public infrastructure and institutions that would other-

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[22] *See* Anthony L. Westerling et al., *Warming and Earlier Spring Increases Western U.S. Forest Wildfire Activity*, Sciencexpress, July 6, 2006, at 1; *see also* IPCC, *supra* note 15, at 290.

[23] *See* Andrew K. Githeko et al., *Climate Change and Vector-Borne Diseases: A Regional Analysis*, 78 Bull. World Health Org. 1136, 1141-42 (2000); IPCC, *supra* note 15, at 43, 462-72.

[24] *See* IPCC, *supra* note 15, at 8, 44, 63, 458-59, 935; *see also* Geoff O'Brien et al., *Climate Change and Disaster Management*, 30 Disasters 64, 64 (2006) ("Disasters triggered by natural hazards are killing more and more people over time and costing more. . . . The world's poorer nations are disproportionately affected, and the most vulnerable and marginalised people in these nations bear the brunt.").

[25] *See* IPCC, *supra* note 15, at 895-96, 899.

wise respond to those losses.[26] As the 2005 storms revealed, the poor and powerless often live in the areas most susceptible to storm damage and are least able to flee a coming storm.[27] Moreover, subsequent experience has shown that those unable to flee on their own experience lasting problems.[28]

The other effects of climate change are likely to be similarly profound and unevenly distributed within and among societies. Adverse effects on agricultural productivity, such as those caused by droughts and desertification, will exacerbate hunger and malnutrition, particularly in sub-Saharan Africa where people already struggle to eke out a living from the land.[29] The increased risk of disease similarly will be borne most heavily by the

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[26] *See* Brookings Institution, Metropolitan Policy Program, *New Orleans After the Storm: Lessons from the Past, a Plan for the Future* 13-20 (2005), *available at* <http://www.brookings.edu/metro/pubs/20051012_NewOrleans.pdf> (hereinafter "*New Orleans After the Storm*"); Shaila Dewan et al., *Evacuees' Lives Still Upended Seven Months After Hurricane*, N.Y. Times, (Mar. 22, 2006), at A1; *see also* IPCC, *supra* note 15, at 43 (noting that increased storm severity "can cause direct loss of life and injury and . . . loss of shelter, population displacement, contamination of water supplies, loss of food production (leading to hunger and malnutrition), increased risk of infectious disease epidemics . . ., and damage to infrastructure for provision of health services").

[27] *See New Orleans After the Storm*, *supra* note 26, at 14-20.

[28] *See* Stacey Plaisance, *Those Who Fled Katrina on Own Did Better*, Chi. Trib., Aug. 14, 2006 (describing study finding that "[e]vacuees who escaped Hurricane Katrina's flooding on their own are faring better almost a year later than the thousands rescued and dumped in cities saturated with evacuees").

[29] *See* IPCC, *supra* note 15, at 44, 519-20; Millennium Ecosystem Assessment, *Ecosystems and Human Well-Being: Desertification Synthesis* (2005), <http://www.inweh.unu.edu/inweh/MA/Desertification-Synthesis.pdf>.

poor in developing nations.[30] Sweltering summer heat waves will take their toll principally on the defenseless — the aged, the sick, and the poor — who lack effective access to air conditioning and health care or are most sensitive to the physiological effects of warmer temperatures.[31] Indeed, record-setting summer weather in the past several years has left hundreds dead each year, especially among the elderly.[32]

Beyond the direct effects on life and health, climate change will leave many landless and homeless — the refugees of climate change.[33] In developing nations, disas-

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[30] *See* IPCC, *supra* note 15, at 43 ("In areas with limited or deteriorating public health infrastructure, increased temperatures will tend to expand the geographic range of malaria transmission to higher altitudes . . . and higher latitudes . . . .").

[31] *See id.* at 43, 397; Ctrs. for Disease Control, *Heat Related Deaths—United States, 1999-2003* (July 28, 2006), <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5529a2.htm>.

[32] *See, e.g.*, Ctrs. for Disease Control, *supra* note 31; Amanda Covarrubias, *California Heat Wave Deaths Prompt Health Study*, L.A. Times, Aug. 3, 2006; Susana Conti et al., *Epidemiologic Study of Mortality During the Summer 2003 Heat Wave in Italy*, 98 Envtl. Research 390 (2005).

[33] *See* IPCC, *supra* note 15, at 397; Norman Meyers, *Environmental Refugees: An Emergent Security Issue*, Organization for Security and Cooperation in Europe, 13th Economic Forum, Prague (May 22, 2005), <http://www.osce.org/documents/eea/2005/05/14488_en.pdf> ("When global warming takes hold, there could be as many as 200 million people overtaken by disruptions of monsoon systems and other rainfall regimes, by droughts of unprecedented severity and duration, and by sea-level rise and coastal flooding."); O'Brien et al., *supra* note 24, at 68 ("Climate-displaced persons may suffer complex emergencies and strife as they flee with disregard for clan, tribal, and national boundaries.").

ters can also significantly impede economic development: "The losses caused by Hurricane Mitch to Honduras and Nicaragua in 1998 totalled more than the combined gross domestic product . . . of both countries, setting development back 20 years."[34]

B. Climate Change Also Threatens Amici's Efforts to Care for the Needy, Including Victims of Natural Disasters.

Called to service in the Christian tradition of charity and solicitude for the most needy, Amicus CWS and their members, the members of Amicus National Council, and Catholic groups working with Amicus NCRLC are active participants in disaster and poverty relief efforts around the world, including the recent responses to Hurricanes Katrina and Rita. Climate change threatens this work.

Through their Emergency Response Program, CWS and its partners provide emergency materials — food, medical supplies, blankets, and temporary shelter — to thousands of children, women, and men in times of crisis around the world.[35] For example, last year, CWS helped survivors of tropical hurricanes in Cuba and Mexico secure safe temporary shelter after the onslaught of Hurricanes Dennis and Emily.

CWS's humanitarian work continues long after the initial crises are over. Through their Social and Economic Development Program, Amici provide long-term technical assistance, emergency management training, and spiritual encouragement to help support communities through the recovery process and avert future emergencies.[36]

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[34] O'Brien et al., *supra* note 24, at 69.

[35] *See Church World Service Overview*, <http://www.churchworldservice.org/brochures/cws.html>.

[36] *Id.*; *see also Church World Service Emergency Response Program: International Response*, <http://www.cwserp.org/international.php> (describing CWS's current international emergency response efforts, including responses to floods in

Domestically, CWS and the member denominations of the National Council support the relief efforts of local faith communities as they assist survivors coping with the unimaginable losses that natural disasters cause. In the aftermath of Hurricane Katrina, for example, CWS sent more than 70 shipments of blankets, health kits, school kits, emergency cleanup buckets, kids' kits, baby kits, Interchurch Medical Assistance medicine boxes, and UNICEF recreational kits to help hurricane survivors.[37] A year after the tragedy, the National Council, CWS, and Catholic groups working with NCRLC remain involved in the long-term recovery of the affected communities. They have mentored, trained, and channeled financial support to new community recovery organizations, which will coordinate volunteer and skilled labor for home rebuilding. Amici are committed to support these groups. Moreover, they or their members have distributed millions of dollars in financial assistance to aid Gulf Coast recovery operations, have provided support services to clergy and caregivers in the area, and have replaced computers and other supplies in damaged schools.[38]

Of course, even under existing climatic conditions Amici and all the relief organizations in the world cannot provide needed care for the many victims of natural disasters. Climate change promises to dramatically expand this shortfall. Without immediate action to cut emissions of greenhouse gases, even redoubled efforts by relief groups will be inadequate to the humanitarian relief task. The awesome scale of the impacts of a warmer climate would dwarf any response that such groups could mount, even with a heroic commitment of public and private re-

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Serbia, a mudslide in the Philippines, and mudslides and floods in Indonesia, and relief and food security in Ethiopia).

[37] *See Church World Service Emergency Response Program—Hurricane Katrina Update* (June 19, 2006), <http://www.cwserp.org/reportview.php?entry=503>.

[38] *Id.*

sources to the effort. Moreover, it is likely that the resources available to CWS and other relief groups will not substantially increase with the growing severity of these crises. The resources of Amici and their member groups thus will be increasingly stretched thin, undermining the adequacy of the services that they already provide.

C. EPA Misapplied Section 202(a)(1) By Failing to Consider the Disastrous Consequences of Climate Change.

EPA erred by failing to consider the potential impacts of climate change, including the severe impacts discussed above, before denying the rulemaking petition. Such consideration is essential to a reasoned determination of whether the climate change "endanger[s] public health or welfare."

Motor vehicle emissions contribute to atmospheric concentrations of greenhouse gases, which cause climate change, and which in turn impairs both "public health" and "welfare." "Public health" is undefined in the statute, but the Act appears to use it in its ordinary sense of "the health of the public."[39] As described previously, the disasters that climate change will cause and exacerbate will produce fatalities, injuries, malnutrition, and illness, all of which are impacts to "public health."

The disasters produced by unmitigated climate change would likewise harm "public . . . welfare." The Act defines "[a]ll language referring to effects on welfare" as

> Includ[ing], but . . . not limited to, effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and haz-

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[39] Dictionary definitions typically refer to the science or profession of public health, *e.g.*, *Webster's Ninth New Collegiate Dictionary* 952 (1983), but that usage makes little sense when the phrase is juxtaposed with the word "endanger," as in section 202(a)(1).

> ards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants.[40]

Disasters would affect "personal comfort and well-being" by leaving people homeless and landless and destroying schools and places of employment and worship. In disrupting economic activity, most severely in developing nations with fragile economies,[41] climate disasters would have "effects *on economic* values." They would destroy and damage "crops," domestic "animals," and other public and private "property." Finally, the economic and logistical burdens that climate change places on relief organizations such as Amicus CWS are cognizable "effects on economic values."

EPA never addressed these consequences of climate change; indeed, it altogether ignored the harm that climate change could cause. Instead, EPA identified several irrelevant policy considerations and recited what it saw as uncertainties in the climate science.[42] As Petitioners describe, however, the policy considerations are not cognizable under the statutory standard, and the bare invocation of uncertainty does not provide a reasoned basis for denying the rulemaking petition.[43] Congress's use of the phrase "may reasonably be anticipated to endanger" in section 202(a)(1) shows that uncertainty *simpliciter* cannot answer the question whether pollution produced by motor vehicle emissions poses a threat to public health or

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[40] 42 U.S.C. § 7602(h).

[41] O'Brien, *supra* note 24, at 69.

[42] *See* Control of Emissions From New Highway Vehicles and Engines, 68 Fed. Reg. 52,922, 52,929-31 (Sept. 8, 2003). In fact, as the climate scientists' brief shows, that uncertainty is more illusion than fact. *See* Brief of Amici Curiae Climate Scientists, *supra* note 14, at 10-17.

[43] *See* Brief for the Petitioners at 35-48.

welfare and thus demands a regulatory response. To the extent that EPA's decision relied on uncertainty, it was obliged to explain why that putative uncertainty demonstrates that climate change cannot "reasonably be anticipated to endanger public health or welfare."[44] It failed to do so.

A reasoned explanation must assess the harm, however uncertain, that uncontrolled climate change could cause. A rational decision about "endangerment" must account for both the likelihood or uncertainty of harm and the magnitude of the potential harm:

> Danger . . . is not set by a fixed probability of harm, but rather is composed of reciprocal elements of risk and harm, or probability and severity. That is to say, the public health may properly be found endangered both by a lesser risk of a greater harm and by a greater risk of a lesser harm.[45]

An uncertain harm is not the same as no harm at all; an uncertain harm might properly be discounted by the uncertainty, but it cannot be ignored.[46] For example, x chance of a one-dollar harm is not the same as x chance of a multi-billion-dollar harm.[47] EPA's decision implies that

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[44] *See Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (holding that "the agency must examine the relevant data and articulate a satisfactory explanation for its action including a 'rational connection between the facts found and the choice made'").

[45] *Ethyl Corp. v. EPA*, 541 F.2d 1, 18 (D.C. Cir. 1976) (citations omitted).

[46] *See* Cass R. Sunstein, *Risk and Reason: Safety, Law, and the Environment* 103 (2002) ("The fact that a danger is unlikely to materialize is hardly a good objection to regulatory controls.").

[47] Amici do not mean to suggest that EPA must quantify or monetize risks or harm under section 202(a)(1); risk and harm are quantified here only for illustration.

a given degree of scientific uncertainty justifies inaction whether the potential harm is astronomical or infinitesimal. It is conceivable that a risk may be so unlikely that even exceptionally serious harm could be discounted to irrelevance, but one cannot conclude as much without first assessing the severity of the harm. EPA did not do so.

In considering whether *x* chance of *y* harm amounts to endangerment of public health or welfare, it is for EPA, of course, to establish *x* and *y* and to decide in the first instance whether together they amount to "endangerment." But EPA cannot shirk its responsibility to render a decision on each of these points and to explain those decisions. EPA ignored *y* altogether and thus "entirely failed to consider an important aspect of the problem."[48]

EPA erred in disregarding the potentially dangerous effects of motor vehicles' emissions of greenhouse gases and the changes in climate to which they contribute. The impacts of climate change on humanity and the environment described in this brief are exactly the kinds of impacts on public health and welfare that section 202(a)(1) obligates EPA to consider. Simply describing the ostensible uncertainty of those effects, as EPA has done here, does not answer the question that Congress posed in section 202(a)(1) of the Clean Air Act.

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[48] *Motor Vehicle Mfrs.*, 463 U.S. at 43.

CONCLUSION

For the reasons stated herein, Amici respectfully request that this Court reverse the decision of the Court of Appeals.

Respectfully submitted,

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COMMONWEALTH OF MASSACHUSETTS, et al.,
Petitioners,
v.
ENVIRONMENTAL PROTECTION AGENCY, et al.,
Respondents.

On Writ Of Certiorari To The United States Court Of Appeals For The District Of Columbia Circuit

BRIEF OF *AMICI CURIAE* NORTH COAST RIVERS ALLIANCE, DESERT PROTECTION SOCIETY, WESTSIDE ASSOCIATION TO SAVE AGRICULTURE, CALIFORNIA SPORTFISHING PROTECTION ALLIANCE, SAVE MEDICINE LAKE COALITION, KLAMATH FOREST ALLIANCE, SAN JOAQUIN AUDUBON SOCIETY AND NORTH CASCADES CONSERVATION COUNCIL IN SUPPORT OF PETITIONERS

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INTERESTS OF THE *AMICI CURIAE*[1]

Amici are environmental organizations with significant experience in studying, managing and protecting natural and cultivated resources in the states of California and Washington, including mountains, deserts, agricultural lands, forests, rivers, lakes, estuaries and their ecosystems. They are the North Coast Rivers Alliance, Desert Protection Society, Westside Association to Save Agriculture, California Sportfishing Protection Alliance, Save Medicine Lake Coalition, Klamath Forest Alliance, San Joaquin Audubon Society and North Cascades Conservation Council. *Amici* represent neither party in this action, and write solely to offer an environmental perspective on the significant issues of public welfare at stake in this dispute.

Amicus North Coast Rivers Alliance ("NCRA") is an unincorporated association of conservation leaders from throughout the north coast of California. NCRA has actively participated in the review and submission of comments on land and water resource development projects along the north coast of California, and has participated in litigation to enforce compliance by state and federal agencies with state and federal environmental laws. NCRA is particularly concerned regarding the adverse effects of greenhouse gas emissions on river flows and the well being of fish and wildlife dependent on them in northern California.

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[1] All parties have consented to the submission of this brief, and their letters of consent have been filed with the Clerk of this Court. This brief was not written in whole or in part by counsel for a party. No person or entity other than *amici* made any monetary contribution to the preparation or submission of this brief.

Amicus Desert Protection Society ("DPS") is a non-profit California corporation formed in 1993 for the purpose of protecting and preserving the scenic, scientific, historic and recreational resources of the California desert. DPS and its members use and enjoy federal lands throughout the California desert for a variety of outdoor pursuits, including scientific study, recreation, aesthetic enjoyment and agriculture. DPS and its members are particularly concerned regarding the adverse effects of greenhouse gases on climate change in the California desert, particularly the dramatically increasing summer temperatures experienced over the past three decades, and the adverse effects of these increases on the wildlife that inhabit the California desert, particularly endangered species including the Peninsular Big Horn sheep and the Desert tortoise. DPS has engaged in public education to promote awareness of the unique and fragile resources of the California desert, and has participated in state and federal litigation to protect and restore California's unique desert resources.

Amicus Westside Association to Save Agriculture ("WASA") is a non-profit public benefit corporation formed in California in 1984 for the purpose of engaging in public education and advocacy to promote the protection and restoration of agricultural lands and uses in the Russian River Valley of California's north coast. WASA's members make productive and healthy use of their agricultural lands and the natural environmental amenities of the Russian River Valley, and are vitally interested in protecting these resources and uses in the face of climate change due to greenhouse gas emissions. WASA and its members have monitored and submitted comments on land and water management projects throughout the Russian River

basin, and have participated in litigation as necessary to enforce agency compliance with state and federal environmental laws. WASA and its members are particularly concerned regarding the adverse effects of climate change on the Russian River and adjacent groundwater aquifers, including longer droughts and more severe flooding.

Amicus California Sportfishing Protection Alliance ("CSPA") is a non-profit public benefit corporation organized under the laws of California for the purpose of preserving and enhancing California public-trust fishery resources and enforcing the state and federal laws that protect them. CSPA's members use northern California rivers that drain the Sierra Nevada and the Coast Range for sport and commercial fishing, aesthetic enjoyment, nature study, boating and swimming. For decades CSPA and its members have been engaged in extensive public education and advocacy efforts throughout northern California to protect its lake and riverine resources from harmful land and water use management. CSPA and its members are particularly concerned regarding the adverse effects of greenhouse gas emissions on the shrinking Sierra Nevada snowpack and declining summer and fall flows in the rivers of the Sierra Nevada and the California Coast Range.

Amicus Save Medicine Lake Coalition ("SMLC") is an unincorporated association formed in 1999 for the purpose of representing a broad spectrum of environmental organizations, Native Americans, recreationists and residents of the Mount Shasta region who have joined together to protect the extraordinary scenic resources, unique geologic formations, abundant wildlife, pristine air and water quality, sacred Native American cultural resources and outstanding recreational opportunities in the Medicine

Lake Highlands east of Mount Shasta. SMLC and its members use and enjoy these resources and are concerned regarding the adverse effects of greenhouse gas emissions on the shrinking snowpack on Mount Shasta and in the California Cascade Mountains and the resulting declines in summer river flows and increases in river temperatures in the region.

Amicus Klamath Forest Alliance ("KFA") is a non-profit public benefit corporation organized under the laws of California for the purpose of promoting sustainable forest ecosystems and economies in northern California and southwest Oregon. KFA and its members actively participate in governmental decisionmaking processes with respect to lands managed by the United States Forest Service, the Bureau of Land Management and National Park Service in northern California and southwest Oregon. KFA and its members study and enjoy the mountains, forests, lakes and rivers of the region for nature study, fishing, boating, hiking, photography, aesthetic enjoyment and educational, cultural and ceremonial activities. KFA and its members are concerned regarding the adverse effects of greenhouse gas emissions on climate change in the Cascade ranges of northern California and southwest Oregon, particularly with regard to increasing summer temperatures and declining river flows, and the resulting adverse impacts on fish and wildlife.

Amicus San Joaquin Audubon Society ("SJAS") is a non-profit public benefit corporation organized under the laws of California whose members reside primarily in the California Central Valley. Its members use the San Joaquin, Mokelumne and Sacramento rivers and their deltas and the San Francisco Bay-Delta estuary for nature study, recreation and aesthetic enjoyment. SJAS

and its members engage in educational and advocacy activities to promote public concern for and conservation of the endangered ecosystem of the Bay-Delta and its tributary rivers. SJAS and its members are particularly concerned regarding the adverse effects of greenhouse gas emissions on the quality and quantity of water flowing in northern California's rivers, and the adverse impacts of increasing temperatures on the shrinking Sierra snowpack and declining summer and fall flows in Sierra Nevada rivers tributary to the Bay-Delta.

Amicus North Cascades Conservation Council ("NCCC") is a non-profit organization formed in 1957 whose public education campaign inspired Congress to establish the North Cascades National Park and Lake Chelan National Recreational Area in 1968. NCCC and its members actively participate in legislative, administrative and judicial fora to protect and preserve the lands, waters, plants and wildlife of the North Cascades ecosystem. NCCC and its members are vitally interested in protecting the alpine and sub-alpine ecology of the North Cascades mountains, and are particularly concerned regarding the adverse impacts of greenhouse gas emissions on the North Cascades' shrinking glaciers and declining summer and fall river flows and fish and wildlife populations.

SUMMARY OF ARGUMENT

Global warming poses significant, widespread and well documented threats to public health and welfare. Global warming is causing sea levels to rise, glaciers and mountain snowpacks to shrink, summer and fall river

flows to decline, wildfires to increase, hurricanes to intensify, summer heat waves and droughts to become more severe and prolonged, and widespread adverse impacts to agricultural productivity, recreational and commercial fishing, forestry, and human health and safety, particularly among the elderly and infirm.

Although global warming's adverse impacts are widespread, they cause specific harm to petitioners, thus conferring standing to bring this lawsuit. Petitioners have suffered particular, concrete, actual, imminent and redressable harms due to the respondent Environmental Protection Agency Administrator's failure to regulate carbon dioxide emissions that lead to global warming. These harms are well within the zone of interests protected by the Clean Air Act.

EPA has clear statutory authority to regulate carbon dioxide. Sections 103(g) and 302(g) of the Clean Air Act specifically identify "carbon dioxide" as an "air pollutant" over which the EPA Administrator has broad authority to promulgate regulations.

The EPA Administrator's refusal to regulate carbon dioxide emissions based on generalized policy grounds extraneous to the Clean Air Act's structure and language is arbitrary and capricious. Congress directed in section 202(a)(1) of the Clean Air Act that the EPA Administrator "shall by regulation prescribe . . . standards applicable to the emission of any air pollutant from . . . new motor vehicles . . . which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." Since carbon dioxide emissions directly contribute to global warming, and

global warming "may reasonably be anticipated to endanger public health or welfare," the EPA Administrator must regulate such emissions. His failure to do so is an abuse of discretion, and must be set aside.

ARGUMENT

I. GLOBAL WARMING THREATENS SIGNIFICANT HARM TO PUBLIC HEALTH AND WELFARE.

Global climate change is both a local and a global issue that requires a national remedy. As a result of global warming and associated weather pattern changes, some regions of this country will suffer extreme hurricanes and flooding while others experience extreme heat waves and drought. Sea levels will rise, inundating coastal regions. Glaciers and snowpacks will shrink, and summer and fall river flows will decline in quantity and quality. Overall, the acreage of total arable land and irrigated farmland will diminish. California and other western states are already seeing drastic changes in the environment due to global warming. Summer temperatures are rising, crops are failing, the Sierra Nevada snowpack is dwindling, winter flooding is increasing and summer river flows are declining. The elderly and the infirm are dying in unprecedented heat waves.

These profound and grave changes in environmental health call for informed, prompt and decisive regulatory action. But as with acid rain, problems caused by increased carbon dioxide emissions cannot be solved by states acting and regulating alone. A national approach such as the regulatory structure prescribed in the Clean

Air Act is essential to control excessive carbon dioxide emissions, and to reduce the risks of global warming.

A. Global Warming Has Substantial Adverse Impacts on Vital Natural Resources and Dependent Economic Sectors

1. Fresh Water

Most Western states, including California, Oregon and Washington, depend on mountain glaciers and seasonal mountain snowpack to assure a year-round fresh water supply for domestic and agricultural uses. This supply is now at risk. Global warming has already impacted stream-flows across the West. Each year, the mountain snow in the Sierra Nevada and Cascades is accumulating later and melting earlier, concurrent with a steady rise in average annual temperature.[2] This shortened season results in less overall snowpack accumulation, and less freshwater storage for human consumers. The mountain elevation level at which freezing occurs rises with temperature, meaning that much of the precipitation that once fell as snow will now fall as rain, leading to more frequent and severe flooding.[3]

Since springtime snowmelt has historically accounted for 50 to 80 percent of freshwater flows across the West, changes in the volume and timing of that freshwater

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[2] I.T. Stewart, et al., "Changes Toward Earlier Streamflow Timing Across Western North America," *Journal of Climate* 18:1136-1155 (April 15, 2005).

[3] D.F. Boesch et al., *The Potential Consequences of Climate Variability and Change on Coastal Areas and Marine Resources: Report of the Coastal Areas and Marine Resources Sector Team.* Silver Spring, USGCRP:163 (2000).

infusion have significant impacts on state water management programs. *Id.* This loss of snowpack not only causes landslides, flash floods and lake overflow,[4] but also increases annual variation in water flows in rivers, with negative impacts on agricultural and recreational consumers of that water. Furthermore, higher summer temperatures and lower forest moisture create dry conditions conducive to bark beetle infestations of forests and the genesis and spread of wildfires.

Regional rainfall has dropped by 20 percent in many parts of California since 1900.[5] Some models predict even greater declines in precipitation as average temperatures increase.[6] In combination with decreased snowpack and more variable runoff flows, this drop in rainfall is likely to precipitate a water crisis in California. As water budgets in the West grow ever tighter, global warming will only aggravate the intensity and frequency of future disputes.

2. Agriculture and Forestry

Farming across the United States will be adversely affected by changes in rainfall distribution patterns, higher temperatures, and drought. Contrary to premature predictions by some that increased atmospheric carbon

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[4] United Nations Environmental Programme (UNEP), *Glacial Lake Outburst Flood Monitoring and Early Warning System* (available at http://www.rrcap.unep.org/issues/glof) (2000).

[5] T.R. Karl et al., "Indices of Climate Change for the United States," *Bulletin of the American Meteorological Society*, 77:279-291 (1996).

[6] J.M. Lenihan et al., "Climate Change Effects on Vegetation Distribution, Carbon, and Fire in California," *Ecological Applications* 13(6):1667-1681 (2003).

dioxide will increase agricultural production,[7] the negative impacts of higher temperatures and a destabilized water supply will outweigh any positive fertilization effect. Experimental evidence demonstrates that the cereal grasses (wheat, rice, and corn) producing most of the nation's calories benefit *least* from increases in carbon dioxide.[8] The slight increases in crop yields due to greater concentrations of carbon dioxide in the air are more than offset by higher temperatures and decreases in soil moisture.[9,10] In one empirical study, rice yield was found to decline by ten percent for each one-degree rise in growing-season minimum temperatures.[11] Furthermore, the accelerated growth of some crops due to increased carbon dioxide alone simultaneously *diminishes* the nutritional quality of that crop.[12] Levels of protein decreased by an average of 14 percent across the cereal grains studied when they were exposed to increased levels of carbon

[7] R.M. Adams et al., "A Reassessment of the Economic Effects of Global Climate Change on U.S. Agriculture," *Climatic Change* 30(2):147-167 (1995).

[8] E.A. Ainsworth and S.P. Long, "What Have We Learned from Fifteen Years of Free-Air CO2 Enrichment (FACE)? A Meta-Analytic Review of the Responses of Photosynthesis, Canopy Properties and Plant Production to Rising CO2," *New Phytologist* 165:351-72 (2005).

[9] H. Fountain, "Observatory: Threat to Rice Crops," NEW YORK TIMES, December 12, 2000, F-5.

[10] Intergovernmental Panel on Climate Change, *CLIMATE CHANGE 2001: IMPACTS, ADAPTATION AND VULNERABILITY*, section 5.3 (Cambridge University Press, Cambridge 2001).

[11] S. Peng et al., "Rice Yields Decline with Higher Night Temperature From Global Warming," *Proceedings of the National Academy of Sciences* 101(27):9971-9975 (July 6, 2004).

[12] L.M. Jablonski, X. Wang, and P.S. Curtis, "Plant Reproduction under Elevated CO2 Conditions: A Meta-Analysis of Reports on 79 Crop and Wild Species," *New Phytologist* 156 (2002) 9-26.

dioxide.[13] Concentrations of iron and zinc also dropped under the same conditions.[14] Satellite data show that in terms of sheer biomass, the productivity of plant life in the northern hemisphere did increase from 1982 to 1991.[15] More recent studies, however, found that between 1991 and 2002, widespread droughts due to global warming caused a decrease in summer photosynthesis in much of the northern hemisphere.[16] Alterations in rainfall distribution patterns, as well as more rapid spring snowmelt, are causing increased erosion of farmland, and rising sea levels are causing coastal erosion.[17]

Forests in many regions, including most of the western United States, face an increased risk of forest fires due to global warming. The 10-year average acreage of boreal forest burned in North America rested at around 2.5 million acres per year for decades, but has increased steadily since 1970 to more than 7 million acres annually,

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[13] "More Carbon Dioxide Could Reduce Crop Value," *Environment News Service*, October 3, 2002.

[14] S.P. Seneweera and J.P. Conroy, "Growth, Grain Yield and Quality of Rice (*Oryza sativa L.*) in Response to Elevated CO2 and Phosphorus Nutrition," *Soil Science and Plant Nutrition* 43:1131-1136 (1997).

[15] R.B. Myneni et al., "Increased plant growth in the northern high latitudes from 1981 to 1991," *Nature* 386:698-702 (April 17,1997).

[16] A. Angert et al., "Drier summers cancel out the CO2 uptake enhancement induced by warmer springs,"*Proceedings of the National Academy of Sciences* 102 (31): 10823-10827 (August 2, 2005); S.J. Goetz, et al., "Satellite-observed photosynthetic trends across boreal North America associated with climate and fire disturbance," *Proceedings of the National Academy of Sciences* 102 (38):13521-13525 (September 20, 2005).

[17] K. Zhang, B.C. Douglas and S.P. Leatherman, "Global Warming and Coastal Erosion," *Climatic Change* 64(1-2):41-58 (May 2004).

a 3-fold increase.[18] Warmer temperatures are increasing both the duration and intensity of the wildfire season in the West.[19] Areas burned by wildfires each year in the West will more than double over the next century. *Id.* The most severe effects of global climate change would occur in the Sierra foothills, where the predicted number of potentially catastrophic fires will increase by 143 percent in grassland and 121 percent in chaparral.[20]

3. Recreational and Commercial Fishing

Oceans absorb most of the excess carbon dioxide produced by land animals (including humans), either as dissolved gas, or in the calcium carbonate skeletons of marine animals. It is estimated that the oceans have absorbed around half of all carbon dioxide generated by human activities since 1800.[21] In water, dissolved carbon dioxide becomes a weak carbonic acid, lowering the pH of seawater. *Id.* As the carbon dioxide content of the atmosphere has increased, the acidification of the oceans has harmed many forms of marine life, including several species of commercial fish. *Id.*

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[18] U.S. Global Change Program, *U.S. National Assessment of the Potential Consequences of Climate Variability and Change Educational Resources Regional Paper: Alaska* (updated 12 October, 2003) (available at http://www.usgcrp.gov/usgcrp/nacc/education/alaska/ak-edu-5.htm)

[19] S.W. Running, "Is Global Warming Causing More, Larger Wildfires?" *Science* 313:927-928 (August 18, 2006).

[20] M.S. Torn, E. Mills, et al., *Will Climate Change Spark More Wildfire Damage?* Lawrence Berkeley National Laboratory LBNL Report No. 42592 (1998).

[21] C.L. Sabine et al., "The Oceanic Sink for Anthropogenic CO2," *Science* (July 16, 2004) 305 (5682):367-371.

Other warming-induced changes have serious ramifications for fisheries and ocean life. For instance, temperature anomalies in the North Atlantic have already degraded the entire ocean food chain in that region, starting from the bottom.[22] When ocean temperatures, currents, and acidity change, the amount of planktonic food available for fish larvae (and consequently the size of fish populations) declines.[23] Migration patterns and spatial distributions of large fish, such as bluefin tuna, have been altered through climate-induced changes in prey abundance.[24] Overall, global fish production is expected to fall substantially as a result of rising ocean temperatures and acidity.[25] Changes like this have already appeared in the northeast Pacific ecosystem.[26]

The growing fluctuations in river water temperatures can have significant negative impacts on the health of their fish populations.[27] Warmer water temperatures due

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[22] J.-M. Fromentin & B. Planque, "*Calanus* and environment in the eastern North Atlantic. 2. Influence of the North Atlantic Oscillation on *C. finmarchius* and *C. helgolandicus*. *Marine Ecology Prog. Service* 134:111-118 (1996).

[23] D.H. Cushing, *POPULATION PRODUCTION AND REGULATION IN THE SEA: A FISHERIES PERSPECTIVE* (Cambridge Univ. Press, Cambridge, 1995).

[24] J.J. Polovina, "Decadal variation in the trans-Pacific migration of northern bluefin tuna (*Thunnus thynnus*) coherent with climate-induced change in prey abundance." *Fish Oceanography* 5:114-119 (1996).

[26] G.R. Walther et al., "Ecological Responses to Recent Climate Change," *Nature* 416:389-395 (March 28, 2002).

[26] J. A. McGowan, D. R. Cayan & L. M. Dorman, "Climate-ocean variability and ecosystem response in the Northeast Pacific," *Science* 281:210-217 (1998).

[27] D. Caissie, "The Thermal Regime of Rivers: A Review," *Freshwater Biology*, 51(8):1389-1406 (August 2006).

to global warming reduce salmon size and numbers.[28] These declines harm both the commercial and sport fishing industries. In 1996, an estimated 9 million trout anglers in the United States spent some 94 million person-days fishing, generating up to $14 billion in economic value.[29] An analysis of global warming impacts on trout habitat predicts that up to 42 percent of existing fish habitat in the West could be lost by 2090. *Id.*

The fishing industry also faces losses as coastal wetlands, which serve as habitat or breeding grounds for many fish species, are eliminated due to rising sea levels.[30] A 50 percent loss in wetland area or productivity, expected by the end of this century, is estimated to lead to a 15 to 20 percent loss in estuarine-dependent fish harvests. *Id.* About 68 percent of all commercially harvested fish species in the United States depend on wetlands for habitat, food or protection. *Id.* This translates into a total catch reduction of at least nine percent due solely to sea level rise. *Id.*

4. General Economic Impacts

Financial institutions are becoming aware of the potential economic impacts of global warming and are

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[28] D.W. Welch, Y. Ishida, and K. Nagasawa, "Thermal Limits and Ocean Migrations of Sockeye Salmon (*Oncorhynchus nerka*): Long-term Consequences of Global Warming," *Canadian Journal of Fisheries and Aquatic Science* 55:937-948 (1998).

[29] K. O'Neal, (Defenders of Wildlife). EFFECTS OF GLOBAL WARMING ON TROUT AND SALMON IN U.S. STREAMS (2002).

[30] S. Fankhauser, *Global Warming Damage Costs: Some Monetary Estimates*. Centre for Social and Economic Research on the Global Environment (CSERGE) GEC Working Paper 92-29.

taking steps to mitigate the real risks. The world's two largest insurance companies, Munich Re and Swiss Re, warned in a 2002 study (UNEP summary) that "the increasing frequency of severe climatic events, coupled with social trends" could cost almost $150 billion per year in the next decade. Each 1 percent increase in annual precipitation due to global warming has been estimated to increase economic losses by as much as 2.8 percent.[31] These losses will, through increased costs related to insurance and disaster relief, burden insured businesses and homeowners, taxpayers, and industry alike.

B. Global Warming Harms Human Health

1. Extreme Temperatures

The EPA estimates that a warming of three degrees Fahrenheit would almost double the annual heat-related deaths in Los Angeles, from 70 (in 1997) to 125.[32] Even a small increase in global temperature can cause relatively large increases in the number of extremely hot days, increasing the likelihood of "killer" heat waves.[33] These increases are associated with the exacerbation of preexisting cardiovascular and respiratory disorders, disproportionately affecting the elderly, very young, poor, and

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[31] O. Choi and A. Fisher, "The Impacts of Socioeconomic Development and Climate Change on Severe Weather Catastrophe Losses: Mid-Atlantic Region (MAR) and the U.S." *Climate Change*, 58:149 (2003).

[32] J. Patz et al., *Climate Change and Health in California: A Pier Research Roadmap*, prepared for California Energy Commission (CEC-500-2005-093) (May 2005) (available at http://www.energy.ca.gov/pier/final_project_reports/CEC-500-2005-093.html).

[33] T.R. Karl and R.W. Knight, "The 1995 Chicago heat wave: How likely is a recurrence?" *Bulletin of the American Meteorological Society* 78:1107-1119 (1997).

ill.[34] High temperatures in urban areas also encourage formation of ground-level ozone, a pollutant that causes lung damage. *Id.*

California recently experienced one of the deadliest heat waves on record, resulting in well over one hundred deaths and temperatures over 120 degrees in many towns across the state.[35] Many of the deaths were due to the fact that, unlike prior heat waves, the 2006 heat wave saw extremely high night-time temperatures as well as day-time highs, so those affected were unable to recover at night.[36]

2. Extreme Weather Events

The World Meteorological Organization has documented a link between global warming and increasing extreme weather events, as have independent researchers, who write that "the increasing . . . number of category 4 and 5 hurricanes . . . is directly linked to" increasing temperatures.[37] Hurricane modeling has yielded similar predictions. Simulated hurricanes modeled under warmer, high-carbon-dioxide conditions are more intense, and a greater number of them evolve into powerful Category 5

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[34] A.J. McMichael, *Human population health*. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE THIRD ASSESSMENT REPORT: CLIMATE CHANGE 2001 (Cambridge University Press, Cambridge, UK).

[35] J. Steinhauer, "In California, Heat is Blamed for 100 Deaths," NEW YORK TIMES, July 28, 2006.

[36] H. Becerra, "High Nighttime Temperatures Set Records Too," LOS ANGELES TIMES, July 25, 2006.

[37] C. Hoyos et al., "Deconvolution of the Factors Contributing to the Increase in Global Hurricane Intensity," *Science* (16 March 2006) 11235601 (DOI: 10.1126).

storms.[38] Many people have already died as a result of increased hurricane activity in the Gulf region, and it is expected that deadly hurricane activity will only increase on average. Although the West Coast does not suffer hurricanes, climate change-induced increases in precipitation have caused flooding and landslides, particularly in California.[39]

3. Infectious Diseases

Global warming increases the spread of infectious diseases. One of the largest known outbreaks of *Vibrio parahaemolyticus* gastroenteritis has been attributed to generally rising ocean temperature, when infected oysters were harvested in Prince William Sound, Alaska in 2005. Global warming is likely to extend the range of vectors (e.g., mosquitoes) conveying infectious diseases such as malaria. A warmer environment boosts the reproduction rate of mosquitoes and the number of times they eat, prolongs their breeding season, and shortens the maturation period for the microbes they disperse.[40]

Rising temperatures and drought conditions are shifting the range of tropical and mosquito-borne diseases

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[38] T.R. Knutson, "Impact of CO2-Induced Warming on Simulated Hurricane Intensity and Precipitation: Sensitivity to the Choice of Climate Model and Convective Parameterization," *Journal of Climate* 17(18):3477-3495 (Sep. 15, 2004).

[39] D.F. Boesch et al., *The Potential Consequences of Climate Variability and Change on Coastal Areas and Marine Resources: Report of the Coastal Areas and Marine Resources Sector Team.* Silver Spring, USGCRP:163 (2000).

[40] P.R. Epstein, "Climate Change and Human Health," *New England Journal of Medicine* 353(14):1433-1436 (October 6, 2005).

northward and westward, including West Nile virus, western equine encephalitis, and St. Louis encephalitis.[41] Lyme disease and hantavirus are also spread by warmer temperatures and weather disturbances. *Id.*

II. GLOBAL WARMING'S SPECIFIC ADVERSE IMPACTS ON PETITIONERS GIVE THEM STANDING TO SUE.

The generalized effects of global warming have specific adverse impacts on petitioners, conferring standing to bring this action. Petitioners, a collection of states, municipalities, and environmental organizations, have suffered particular, concrete, actual, imminent, and redressable harms due to EPA's failure to regulate carbon dioxide emissions that lead to global warming. These harms fall within the zone of interests contemplated by the Clean Air Act, and petitioners thus have standing to sue.

A. The Harm Is Concrete.

Petitioners have suffered a concrete injury in fact, as documented by their declarations submitted below. Many of these injuries are "concrete and particularized,"[42] such as the deaths of hundreds due to extreme heat events, and others are "imminent"[43] threats, such as the future loss of coastal property in the State of Massachusetts. Some are "aesthetic, conservational or recreational" harms such as

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[41] P.R. Epstein, "West Nile Virus and the Climate," *Journal of Urban Health* 78(2):367-71 (June 2001).

[42] *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560-61 (1992).

[43] *Whitmore v. Arkansas*, 495 U.S. 149, 155 (1990).

those held to be injuries in fact in *Sierra Club v. Morton*. 405 U.S. 727 (1972).

As shown above, the number of people who are suffering or will suffer some particular and concrete injury due to global warming is substantial. But not everyone will be similarly injured by global warming, as some may be located in less vulnerable areas or possess the financial means to insulate themselves against its effects. Controlling air pollutants that cause global warming is thus not merely a matter of diffuse public interest that affects all or most people in roughly the same way. Nor is it the type of "widely shared grievance" for which this Court has suggested that "the political process, rather than the judicial process, may provide the more appropriate remedy."[44] Because certain vulnerable segments of the population suffer a disproportionate share of the harm inflicted by global warming, and others may remain unscathed, the political process is unlikely to adequately address these injuries.

There is now overwhelming evidence that global warming causes widespread harm to millions of Americans, from rising sea levels, increasing heat waves and associated droughts, stronger hurricanes and other storms, greater flooding and erosion, more wildfires, erratic precipitation and resulting crop losses. Because of this mounting scientific evidence of economic harm, "the *risk* of global warming is large enough to have real economic consequences, certainly in the view of the insurance

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[44] *Federal Election Commission v. Akins*, 524 U.S. 11, 23 (1998). As the Court went on to note, even a widely shared interest, "where sufficiently concrete, may count as an 'injury in fact.'" *Id.* at 24.

industry."[45] As Professor Farber has noted, insurance companies have already acted in response to global warming by raising their rates for coverage of damage caused by catastrophic weather events, and "[i]t would be silly to say that a rise in insurance rates or the unavailability of insurance did not constitute injuries in fact." *Id.* at 1123. This accords with this Court's holding in *Friends of the Earth v. Laidlaw Environmental Services, Inc.*, 528 U.S. 167, 181 (2000) that a change in behavior due to "reasonable concerns about the effects of those discharges, [which] directly affected those affiants' recreational, aesthetic, and economic interests" sufficed to support a grant of standing to petitioners in that case. Likewise here, reasonable concerns about the impacts of greenhouse gas emissions have already directly affected petitioners' economic interests and are likely to do so in the future.

As this Court held in *United States v. Students Challenging Regulatory Agency Procedures* (*SCRAP*), "to deny standing to persons who are in fact injured simply because many others are also injured, would mean that the most injurious and widespread . . . actions could be questioned by nobody." 412 U.S. 669, 688 (1973). Here, many people are injured by the widespread impacts of global warming, but petitioners' injuries are nonetheless concrete, and specific to petitioners' unique circumstances.

B. The Harm Is Caused By EPA's Failure to Act.

The evidence of harm due to global warming has only grown stronger with the passage of time. The harms

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[45] Daniel A. Farber, *Uncertainty as a Basis for Standing*, 33 Hofstra L.R. 1123, 1129 (2005).

suffered by petitioners are clearly caused by greenhouse gas emissions.[46] The link is far stronger than the "attenuated line of causation" found sufficient to establish standing in *U.S. v. SCRAP*, wherein an increased railroad freight rate would lead to an increase in the use of non-recyclable goods, eventually leading through a convoluted chain of events to an increase in litter in Washington area national parks. 412 U.S. at 688. Here, thousands of scientific studies have demonstrated the strong link between carbon dioxide emissions, global warming, and the heat waves, coastal flooding, extreme weather and other adverse impacts of which petitioners have complained.

The relevant test in cases like this one is a showing that some "particularized environmental interest of [petitioners] will suffer demonstrably increased risk, [and that the challenged agency action] is substantially likely to cause that demonstrable increase in risk to their particularized interest."[47] Here, there is a scientifically based causal link between motor vehicle emissions of carbon dioxide and the climate change that has injured petitioners. Oreskes, *supra*, note 46. EPA's failure to regulate these emissions has delayed the reductions in greenhouse gas emissions that are necessary to prevent imminent harms to petitioners from occurring.

C. The Harm Is Redressable.

The injury in this case is redressable because judicial relief will direct the EPA Administrator to regulate carbon

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[46] N. Oreskes, "The Scientific Consensus on Climate Change," *Science* 306:1686 (2004).

[47] *Florida Audubon Society v. Bentsen*, 94 F.3d 658, 665 (D.C. Cir. 1996).

dioxide emissions from motor vehicles. Limitations on carbon dioxide emissions from motor vehicles, in turn, will reduce atmospheric carbon dioxide and resulting heating of the atmosphere below what it would have been otherwise. Lowered atmospheric carbon dioxide, and thus a lessened increase in average global high temperatures, will in turn lead to fewer of the injuries described above. Motor vehicles are responsible for a significant percentage of carbon dioxide emissions in the United States. In the U.S. in 2004, 33 percent of total carbon-dioxide emissions were due to transportation uses.[48] Eighty-two percent of those emissions were due to the consumption of motor gasoline and diesel fuel (i.e., used by motor vehicles). *Id.* Thus, twenty-seven percent of the carbon dioxide emitted within the United States each year would be subject to regulation by the EPA Administrator – a significant fraction.

Even if it is difficult to evaluate the marginal impact of regulating motor vehicle carbon dioxide emissions on global warming as a whole, this difficulty does not preclude petitioners from suing to force the EPA Administrator to perform his duty. Where "the relevant harms are probabilistic and systemic, with widespread impact, courts must be especially careful not to manipulate the causation requirements of standing so as to prevent the anticipated regulatory beneficiaries from gaining access to court."[49] The ultimate test of redressability here is not whether

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[48] United States Energy Information Administration, *Emissions of Greenhouse Gases in the United States 2004*, DOE/EIA-0573 (2004), released December 2005, at 22.

[49] *City of Los Angeles v. National Highway Traffic Safety Admin.*, 912 F.2d 478, 495 n. 5 (D.C. Cir. 1990).

global warming will be stopped as a result, but whether the Court will be able to correct the EPA Administrator's failure to regulate an air pollutant that causes global warming.

Reducing global warming through such regulation is eminently practicable. Limiting motor vehicle emissions of carbon dioxide would be a relatively painless way of mitigating global warming and its harmful effects on petitioners and *amici*. Motor vehicle emissions can be reduced through a combination of vehicle-targeted, fuel-targeted and transportation-management measures.[50] Vehicle-targeted measures include emission standards as well as inspection and maintenance programs. *Id.* at 38. Fuel-targeted measures include alterations in gasoline formulation and alternative fuel promotion. *Id.* at 40. Transportation and traffic management measures complement the previous measures and can include congestion charges, vehicle access restrictions, and promotion of public transit programs. *Id.* at 41-42. Any and all of these regulatory measures could have a significant impact on future global warming.

D. The Harm Is Within the Zone of Interests Contemplated By the Statute.

Petitioners' suit falls within the "zone of interests" protected by the Clean Air Act.[51] As discussed below, the

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[50] D.M. Elsom, "Air Quality Management – Highlighting Good Practice," *Clean Air and Environmental Quality* 38(1) (February 2004): 36-44.

[51] *See Bennett v. Spear*, 520 U.S. 154, 162-163 (1997); *Association of Data Processing Organizations v. Camp*, 397 U.S. 150, 153-154 (1970).

Clean Air Act *explicitly* cites "climate" as one of the relevant factors to be considered when regulating on behalf of the public welfare. The more specific harms suffered by petitioners as a result of climate change fall *a fortiori* under the umbrella of public welfare.

III. EPA HAS AUTHORITY UNDER THE CLEAN AIR ACT TO REGULATE CARBON DIOXIDE.

This case involves the important, yet straightforward task of interpreting the words of the Clean Air Act ("CAA"). Under bedrock judicial principles, essential to our democratic form of representative governance, the Courts must give effect to the plain meaning of the statutes adopted by Congress.[52] As this Court has stated, "[i]f a court, employing traditional tools of statutory construction, ascertains that Congress had an intention on the precise question at issue, that intention is the law and must be given effect." *Id.*

EPA contends, in defending its decision, that carbon dioxide is not a pollutant under the terms of the CAA. EPA's interpretation, however, contravenes the "clear congressional intent" evidenced in the words of the CAA and therefore warrants this Court's rejection.[53] Section

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[52] *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 843, fn.9 (1984).

[53] *Id.*, citing *FEC v. Democratic Senatorial Campaign Committee*, 454 U.S. 27, 32 (1981); *SEC v. Sloan*, 436 U.S. 103, 117-118 (1978); *FMC v. Seatrain Lines, Inc.*, 411 U.S. 726, 745-746 (1973); *Volkswagenwerk v. FMC*, 390 U.S. 261, 272 (1968); *NLRB v. Brown*, 380 U.S. 278, 291 (1965); *FTC v. Colgate-Palmolive Co.*, 380 U.S. 374, 385 (1965); *Social Security Board v. Nierotko*, 327 U.S. 358, 369 (1946); *Burnet v. Chicago Portrait Co.*, 285 U.S. 1, 16 (1932); *Webster v. Luther*, 163 U.S. 331, 342 (1896).

302(g) of the Clean Air Act defines an "air pollutant" extremely broadly as:

> [A]ny air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air. Such term includes any precursors to the formation of any air pollutant. . . . [42 U.S.C. § 7602(g).]

The CAA's broad language demonstrates Congress' intention to grant the EPA far-reaching authority to regulate air pollution.[54]

In addition, and perhaps even more convincingly, Congress explicitly listed carbon dioxide as a air pollutant in section 103(g), which calls for a research program to find ways to prevent or reduce "multiple *air pollutants*, including sulfur oxides, nitrogen oxides, heavy metals, PM-10 (particulate matter), carbon monoxide, and *carbon dioxide*."[55] Because Congress specifically defined carbon dioxide as a pollutant in the CAA, EPA's contrary determination that it is not a pollutant is demonstrably erroneous and must be overturned. According to this Court, "[a] regulation which does not [carry into effect the will of Congress as expressed by the statute], but operates to create a rule out of harmony with the statute, is a mere nullity." *Guardians Ass'n v. Civil Service Com'n of City of New York*, 463 U.S. 582, 615 (1983), citing *Manhattan*

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[54] *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980) ("In choosing such expansive terms . . . modified by the comprehensive 'any,' Congress plainly contemplated that the [statutory provision] would be given wide scope.").

[55] 42 U.S.C. § 7403(g)(1) (emphasis added).

General Equipment Co. v. Commissioner, 297 U.S. 129, 134 (1936).

IV. EPA'S REFUSAL TO REGULATE CARBON DIOXIDE IS ARBITRARY AND CAPRICIOUS.

EPA's refusal to regulate carbon dioxide was based on policy considerations which lie outside of the Administrator's discretionary purview under the Clean Air Act. As such, EPA's decision ignored Congress' clear directive, was arbitrary and capricious, and therefore must be set aside. In section 202(a)(1), Congress instructed, as follows:

> The Administrator *shall* by regulation prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the *emission of any air pollutant* from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which *may reasonably be anticipated to endanger public health or welfare*.[56]

By including the words "in his judgment," Congress did not invest the EPA Administrator with unlimited discretion to consider any factors he chooses in making a determination under section 202(a)(1). To the contrary, Congress sharply limited the Administrator's discretion by requiring him to consider, specifically and exclusively, whether the pollutant "may reasonably be anticipated to endanger public health or welfare." *Id.*

Contrary to Congress' mandate, the EPA Administrator never determined whether carbon dioxide "may reasonably

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[56] 42 U.S.C.A. § 7521(a)(1) (emphasis added).

be anticipated to endanger public health or welfare." Had he followed the CAA's clear direction, he would have weighed the evidence in favor of and against the possibility that excess carbon dioxide may endanger public health and welfare. Instead, however, he based his refusal to regulate on clearly extraneous considerations such as "foreign policy issues" that completely sidestepped the one question that is germane to the issue at hand: whether increasing amounts of carbon dioxide "may reasonably be anticipated to endanger public health or welfare."[57] The Administrator ignored this fundamental question despite overwhelming scientific evidence demonstrating global warming's disastrous impacts.

The Administrator's failure to address this pivotal issue is an abuse of discretion. As has been stated by the D.C. Circuit Court, the Clean Air Act is "precautionary in nature and does not require proof of actual harm before regulation is appropriate." *Ethyl Corp. v. EPA*, 541 F.2d 1, 17 (D.C. Cir. 1976). Moreover, "requiring EPA to wait until it can conclusively demonstrate that a particular effect is adverse to health before it acts is inconsistent with both the Act's precautionary and preventive orientation and the nature of the Administrator's statutory *responsibilities*."[58] Here, where the causal connection between carbon dioxide and climate change is virtually certain, the EPA has no excuse not to regulate.

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[57] See *Whitman v. American Trucking Ass'n, Inc.*, 531 U.S. 457, 486 (2001). Construing a similar section of the CAA directing the EPA Administrator to set standards for pollutants which in his "judgment" are "requisite to protect the public health," the Court held that "[t]he EPA may not consider implementation costs" in setting such standards, as such costs were extraneous to the criterion selected by Congress.

[58] *Lead Industries Ass'n v. EPA*, 647 F.2d 1130, 1155 (D.C. Cir. 1980), emphasis added.

The EPA Administrator contends that *FDA v. Brown & Williamson*, 529 U.S. 120 (2000), forecloses regulation "in areas raising unusually significant economic and political issues when Congress has specifically addressed those areas in other statutes."[59] His conclusion that it therefore cannot regulate greenhouse gases is unpersuasive. In *Brown & Williamson*, this Court declined to extend the FDA's regulatory authority because in that case, if the FDA had followed the regulation at issue to the letter, it would have had no choice but to *ban* tobacco products outright, a step that would have had drastic consequences on the national economy. *Brown & Williamson*, 529 U.S. at 160-161. Here, a plain reading of the Clean Air Act hardly mandates the *banning* of motor vehicles, fossil fuel use, or any other analogous drastic measure. Rather, it simply requires that the EPA set emissions criteria for carbon dioxide, a measure that has been applied to other extremely common air pollutants such as sulfur dioxide and nitrous oxides without catastrophic effects on the national economy.

The EPA Administrator's responsibilities under the CAA include protecting the public's health and welfare. His decision, based on impermissible and extraneous factors, not to regulate carbon dioxide abrogates that duty and must be set aside.

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[59] Control of Emissions from New Highway Vehicles and Engines, 68 Fed. Reg. at 52,925.

CONCLUSION

The judgment of the Court of Appeals should be vacated and the case remanded for further consideration.

Respectfully submitted,

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In the

Supreme Court of the United States

COMMONWEALTH OF MASSACHUSETTS, ET AL.,

Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.,

Respondents.

On Writ of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

BRIEF AMICUS CURIAE OF PACIFIC LEGAL FOUNDATION IN SUPPORT OF THE ENVIRONMENTAL PROTECTION AGENCY

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QUESTIONS PRESENTED

Section 202(a)(1) of the Clean Air Act, 42 U.S.C. § 7521(a)(1), authorizes the Administrator of the Environmental Protection Agency (EPA) to set emission standards for any "air pollutant" from new vehicles which in the Administrator's "judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare."

1. Whether the EPA Administrator properly exercised his discretion not to issue carbon dioxide emission standards for new motor vehicles under section 202(a)(1).

2. Whether the EPA Administrator has authority to regulate carbon dioxide and other air pollutants for climate change purposes under section 202(a)(1).

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42 U.S.C. § 7521(a)(1) ..... i, 4

Federal Register

68 Fed. Reg. 52922 (Sep. 8, 2003) 5-9, 12-15

Rules

Supreme Court Rule 37 1

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Miscellaneous

Centre for Sun-Climate Research of the Danish National Space Center, *Influence of Cosmic Rays on the Earth's Climate*, http://spacecenter.dk/xpdf/influence -of-cosmic-rays- on-the-earth.pdf (last visited Oct. 19, 2006) 7

National Research Council, *Climate Change Science: An Analysis of Some Key Questions* (2001) 5

TABLE OF AUTHORITIES—Continued

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News from spacecenter.dk, *Getting Closer to the Cosmic Connection to Climate* (October 4, 2006) http://spacecenter.dk/cgi-bin/nyheder-m-m.cgi?cgifunction=form|id=1159917791udsk=1 (last visited Oct. 19, 2006) 8

Royal Society, *Experimental Evidence for the Role of Ions in Particulate Nucleation Under Atmospheric Conditions*. http://www.journals.royalsoc.ac.uk/(di31e045tuhy54mkqnrgjiiy)/app/homecontribution.asp?referrer=parent&backto=issue,12,46; journal, 1,133;linkingpublicationresults,1:102023,1 (last visited Oct. 19, 2006) 7

Senator James Inhofe, Chairman, Senate Environment and Public Works Committee, Senate Floor Speech, Delivered Monday September 25, 2006, *Hot and Cold Media Spin Cycle: A Challenge to Journalists Who Cover Global Warming*, http://epw.senate.gov/repwhitepapers/HOT%20AND%20COLD%20MEDIA%20SPIN%20CYCLE.pdf (last visited Oct. 19, 2006) 8

IDENTITY AND INTEREST OF AMICUS CURIAE

Under Supreme Court Rule 37,[1] Pacific Legal Foundation (PLF) respectfully submits this brief amicus curiae in support of Respondent United States Environmental Protection Agency. Written consent was granted by counsel for all parties and lodged with the clerk of this Court.

PLF was founded over 30 years ago and is widely recognized as the largest and most experienced nonprofit legal foundation of its kind. PLF litigates matters affecting the public interest at all levels of state and federal courts and represents the views of thousands of supporters nationwide. PLF advocates limited government, individual rights, and free enterprise. PLF has litigated numerous cases addressing a balanced approach to environmental regulation including this Court's recent decision in *Rapanos v. United States*, 126 S. Ct. 2208 (2006).

PLF's analysis of the standing issue and the intent of Congress will provide a valuable and necessary viewpoint to assist the Court in resolving this case.

INTRODUCTION AND SUMMARY OF THE ARGUMENT

This case is not a referendum on global warming. This Court need not pass judgment on whether the climate change phenomenon is real or conjectural, natural or manmade, or benign or cataclysmic. Instead, this Court must determine if the Petitioners have standing to sue and then, if necessary, whether Congress intended to regulate carbon dioxide, a naturally

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[1] Pursuant to Supreme Court Rule 37.6, Amicus Curiae affirms that no counsel for any party authored any part of this brief and no person or entity made a monetary contribution for the preparation or submission of this brief.

occurring substance necessary for life, as a toxic air contaminant under the Clean Air Act.

The answer to both questions is no.

Although Petitioners assert they will suffer harm from the effects of global warming—such as sea level increases causing erosion on state beaches—if the Environmental Protection Agency does not classify carbon dioxide as an air pollutant under the Clean Air Act and limit new car emissions, Petitioners are unable to establish a causal link between the alleged harm and the agency's inaction. Of equal importance, carbon dioxide emissions from new cars are already regulated by the Department of Transportation—not the Environmental Protection Agency—to the maximum extent authorized by Congress under the so-called CAFE standards which establish mandatory fuel efficiency requirements for automakers. Therefore, the Environmental Protection Agency has no power to address the Petitioners' concerns. Thus, without the ability to show causation and redressability, Petitioners cannot satisfy Article III standing requirements under the United States Constitution.

Even if Petitioners had standing to bring this suit, Congress never intended to address global warming through piecemeal legislation like section 202(a)(1) of the Clean Air Act, which even under the broadest reading would encompass only a narrow component of global warming effects. Rather, Congress has taken a more comprehensive approach to the matter—an approach that recognizes the magnitude of global warming concerns worldwide, the need for greater scientific certainty, the potential social and economic upheaval a global warming response will generate, the national and international political implications of carbon dioxide regulation, the effect of a unilateral American response on third world countries, and the absolute necessity of a coordinated global warming strategy.

Concerns which could not be addressed by rote application of the Clean Air Act.

The simple fact is that Congress has assiduously refused to adopt a regulatory approach to control carbon dioxide emissions in the United States. Surely, Congress could not have intended to remedy global climate change—one of the most far-reaching and controversial issues of our age—without an express statutory statement to that effect.

ARGUMENT

I

PETITIONERS LACK CONSTITUTIONAL STANDING TO BRING THIS SUIT

The right to maintain a suit in federal court is based on establishing standing under Article III of the United States Constitution. As this Court has recognized, a lack of standing deprives the court of jurisdiction to decide the case: "Standing to sue is part of the common understanding of what it takes to make a justiciable case." *Steel Company v. Citizens for a Better Environment*, 523 U.S. 83, 102 (1998). The "constitutional minimum of standing" is characterized by three requirements. *Id.* at 102. First, Petitioners must ultimately prove, not merely allege, "an injury in fact." *Id.* at 103. They must identify a particularized harm that is "concrete" and "actual or imminent, not 'conjectural' or 'hypothetical.'" *Id.* (citing *Whitmore v. Arkansas*, 495 U.S. 149, 155 (1990). Second, they must establish causation whereby they show "a fairly traceable connection between" the Petitioners' alleged injury and the conduct of the Defendant to which Petitioners complain. 533 U.S. at 103. And third, Petitioners must establish redressability. That is, they must show "a likelihood that the requested relief will redress the alleged injury." *Id.*

In this case, the lower court was split on the standing issue. Judge Randolph was willing to assume, for purposes of the

case, that Petitioners did have standing because he would rule against the Petitioners on the merits anyway. *See Massachusetts v. Environmental Protection Agency*, 415 F.3d 50, 56 (D.C. Cir. 2005). However, Judge Sentelle found the alleged injury was too general, amounting to nothing more than a claim that global warming is "harmful to humanity at large" and that "[p]etitioners are or represent segments of humanity." *Id.* at 60. On the other hand, Judge Tatel determined that at least one of the Petitioners alleged more particularized injuries; Based on rising sea levels, "Massachusetts claims an injury—namely, loss of land within its sovereign boundaries—that 'affects [it] in a personal and individualized way.'" *Id.* at 65.

But even if one petitioner has satisfied the "injury in fact" requirement of Article III standing, Petitioners cannot satisfy the other two requirements of causation and redressability.

A. Petitioners Cannot Establish a Causal Link Between EPA's Failure to Regulate CO2 from New Motor Vehicles Under the Clean Air Act and Rising Sea Levels in Massachusetts

In this case, Petitioners challenge the Environmental Protection Agency's decision not to designate carbon dioxide as an "air pollutant" under section 202 (a)(1) of the Clean Air Act and adopt standards to regulate carbon dioxide for global warming purposes. That section provides:

> The Administrator [of the EPA] shall by regulation prescribe . . . standards applicable to the emission of any air pollutant from . . . new motor vehicle[s] . . . which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.

42 U.S.C. § 7521(a)(1).

Petitioners rely on modeling studies and affidavits contending with absolute certitude that human-caused greenhouse gases, like carbon dioxide, "are accelerating global climate change and that emissions of these compounds from motor vehicles contribute to the problem." 68 Fed. Reg. 52922, 52930 (Sept. 8, 2003). But the Environmental Protection Agency determined that this information was available to the National Research Council (an arm of the prestigious National Academy of Sciences) when it came to a different conclusion. *Id.* In its searching 2001 report, *Climate Change Science: An Analysis of Some Key Questions*, the Council concluded that the current state of knowledge was uncertain and that global warming models are inherently unreliable:

> [B]ecause of the large and still uncertain level of natural variability inherent in the climate record and the . . . time histories of the various forcing agents (and particularly aerosols), a causal linkage between the buildup of greenhouse gases in the atmosphere and the observed climate changes during the 20th century cannot be unequivocally established.

68 Fed. Reg. 52930 (citing the NRC report at 17).

The National Research Council cautioned that "current estimate[s] of the magnitude of future warming should be regarded as tentative and subject to future adjustments" and that "[r]educing the wide range of uncertainty inherent in current model predictions of global climate change will require major advances in understanding and modeling." *Id.* (citing the Council report at 1.)

As the National Research Council explained, the difficulty in predicting climate change derives from a number of complex economic and physical factors, including the predictability of human-caused greenhouse gas emissions, what happens to emissions in the atmosphere, the radiative properties of the atmosphere, changes in cloud cover and ocean circulation,

changes in day and evening temperatures, shifts in rain and storms, and impacts on human health. *See id.* (citing the Council report at 20). If climate change models are to be reliable, uncertainties must be reduced relative to:

- The future global use of fossil fuels and future global emissions of methane,
- The fraction of fossil fuel carbon that will remain in the atmosphere and contribute to radiative forcing versus exchange with the oceans or with the land biosphere,
- The impacts (either positive or negative) of climate change on regional and local systems,
- The nature and causes of the natural variability of climate and its interactions with human-induced changes, and
- The direct and indirect effects of the changing distribution of aerosols.

68 Fed. Reg. at 52930.

Thus, the National Research Council concluded that "substantial scientific uncertainties limit our ability to assess each of these factors and to separate out those changes resulting from natural variability from those that are directly the result of increases in anthropogenic [human-caused] GHGs [greenhouse gases]." *Id.*

In other words, the objective and independent conclusions of the National Research Council make clear that Petitioners *cannot* establish Article III causation. The high level of scientific uncertainty relative to global warming precludes Petitioners from showing "a fairly traceable connection between" the Petitioners' alleged injury (sea level increases on the Massachusetts coast) and the conduct of the Defendant (the agency's decision not to regulate carbon dioxide from new

vehicles under the Clean Air Act) to which Petitioners complain.

Indeed, a recent study supports these conclusions.

On October 3, 2006, the Royal Society, the British equivalent of our National Academy of Sciences, published a study online entitled *Experimental Evidence for the Role of Ions in Particulate Nucleation Under Atmospheric Conditions*. http://www.journals.royalsoc.ac.uk/(di31e045tuhy54mkqnrgjiiy)/app/home/contribution.asp?referrer=parent&backto=issue,12,46;journal,1,133;linkingpublicationresults,1:102023,1 (last visited Oct. 19, 2006). The study was produced by the Centre for Sun-Climate Research of the Danish National Space Center. According to the backgrounder provided by the Space Center, http://spacecenter.dk/xpdf/influence-of-cosmic-rays-on-the-earth.pdf (last visited Oct. 19, 2006), the study proves a decade-old theory that cosmic radiation greatly affects low-level cloud cover on the Earth. This is significant because "low-level clouds cover more than a quarter of the Earth and exert a strong cooling effect at the surface." *Id.* According to the study, so strong is this effect that

> [t]he 2% changes in low cloud cover in just 5 years . . . should vary the heating at the Earth's surface by an average of about 1.2 watt per square metre. That figure can be compared with about 1.4 watt per square metre estimated by the [United Nations] Intergovernmental Panel on Climate Change for the greenhouse effect of *all the increase in carbon dioxide in the air since the Industrial Revolution.*
>
> *In 1900 the cosmic rays were generally more intense than now and most of the warming during the 20th Century can be explained by a reduction in low cloud cover.*

Id. (emphasis added)

This startling conclusion suggests that human-caused carbon dioxide emissions may have an insignificant effect on global warming.[2] The link between cosmic radiation and low-level cloud formation constitutes "a missing link in climate theory," News from spacecenter.dk, *Getting Closer to the Cosmic Connection to Climate* (Oct. 4, 2006) http://spacecenter.dk/cgi-binnyheder-m-m.cgi?cgifunction=form|id=1159917791udsk=1 (last visited Oct. 19, 2006), and demonstrates how little is known about the factors influencing global climate change. Even if this study is not determinative on the subject, it puts in doubt the assumptions about the causes of global warming on which the current climate models are based and on which Petitioners rely to establish causation. On the current state of the scientific record, it is impossible for Petitioners to prove a causal connection between sea level rises off the Massachusetts coast and the Environmental Protection Agency's decision not to regulate carbon dioxide emissions from new vehicles under the Clean Air Act.

B. Petitioners Cannot Establish a Likelihood That the Requested Relief Will Redress the Alleged Injury

Petitioners ask this Court to direct the Environmental Protection Agency to determine if carbon dioxide is an "air pollutant" under the Clean Air Act. They assume that if carbon dioxide is determined to be an "air pollutant" that it will result in increased federal regulation of carbon dioxide which will reduce global temperatures and, presumably, retard or eliminate

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[2] For a comprehensive analysis of the debate surrounding global warming assumptions *see* http://epw.senate.gov/repwhitepapers/HOT%20AND%20COLD%20MEDIA%20SPIN%20CYCLE.pdf (last visited Oct. 19, 2006): *Hot and Cold Media Spin Cycle: A Challenge to Journalists Who Cover Global Warming*, Senator James Inhofe, Chairman, Senate Environment and Public Works Committee, Senate Floor Speech, Delivered Monday September 25, 2006.

sea level rises along the coast of Massachusetts. But Petitioners are operating on a false assumption. Even if the Environmental Protection Agency were to designate carbon dioxide as an "air pollutant," the agency cannot further regulate the substance from new vehicles under the Clean Air Act.

According to the Environmental Protection Agency, there is no known technology to reduce carbon dioxide from vehicle emissions except by increasing fuel economy. *See* 68 Fed. Reg. at 52929 ("No technology currently exists or is under development that can capture and destroy or reduce emissions of CO2, unlike other emissions from motor vehicle tailpipes. At present, the only practical way to reduce tailpipe emissions of CO2 is to improve fuel economy."). And fuel economy is regulated by the Department of Transportation under the Energy Policy and Conservation Act, not by the Environmental Protection Agency under the Clean Air Act.

In the Energy Policy and Conservation Act Congress itself has "set mandatory standards governing the fuel economy of cars and light duty trucks." *Id.* At the time the Environmental Protection Agency decided not to designate carbon dioxide as an "air pollutant," the level of fuel economy statutorily authorized by Congress was the 27.5 miles per gallon corporate average fuel economy (CAFE) standard. *Id.* That standard applies to model years 1984 and beyond. *Id.* The Department of Transportation—not the Environmental Protection Agency—is allowed to modify the standard for any given year, but Congress retains a veto power over any changes, ostensibly to ameliorate economic impacts on automakers and consumers. *Id.* Under the Act, the Deapartment of Transportation may only set standards that automakers "meet on a fleetwide basis." *Id.* "Automakers thus have flexibility to design different vehicle models having different fuel economy so long as the average of the vehicles sold by the automaker in a given model year and class meets the CAFE standard for that year." *Id.*

In short, the Energy Policy and Conservation Act provides "the only statutory vehicle for regulating the fuel economy of cars and light trucks." *Id.* The Environmental Protection Agency cannot impose controls on carbon dioxide emissions under the Clean Air Act that require higher fuel economy standards than those mandated by Congress under the Energy Policy and Conservation Act. And, to set lower standards would serve no purpose. Thus, this Court cannot provide any redress to Petitioners in this case. Therefore, the Court has no jurisdiction under Article III and the case must be dismissed.

II

CONGRESS DID NOT INTEND TO REGULATE CO2 FOR GLOBAL WARMING PURPOSES UNDER THE CLEAN AIR ACT

The strongest evidence that Congress did not intend to address global warming through section 202(a)(1) of the Clean Air Act is that the Act includes no such expression of intent. The Environmental Protection Agency has acknowledged the undeniable importance of this issue: "We agree with the President that 'we must address the issue of global climate change.'" 68 Fed. Reg. 52929. The worldwide social, political, and economic implications of our response to global warming are immense. The Petitioners themselves have filed two volumes of declarations some of which "predict catastrophic consequences from global warming." *Massachusetts*, 415 F.3d at 54. It is highly unlikely, therefore, that Congress would have intended to leave an issue of such magnitude to a general provision of the Clean Air Act that was never designed to address global concerns and without an express statement that the provision should be so broadly applied.

This Court came to the same conclusion in a similar case: *Food and Drug Administration v. Brown and Williamson Tobacco Corp.*, 529 U.S. 120 (2000). In that case, the Food and Drug Administration (FDA) sought to apply the Food, Drug,

and Cosmetic Act to tobacco and tobacco products. *Id.* at 120. Although the Act did not expressly allow the regulation of tobacco, the Act did authorized the FDA to regulate "drugs" and "devices." *Id.* at 120. The FDA determined that nicotine was a "drug" and cigarettes and smokeless tobacco were "devices" that deliver nicotine to the body and thus were subject to federal regulation under the Act. *Id.* Moreover, the FDA felt a need to provide strict controls on tobacco use: "According to the FDA, '[m]ore than 400,000 people die each year from tobacco-related illnesses, such as cancer, respiratory illnesses, and heart disease.'" *Id.* at 134-35. "The agency also determined that the only way to reduce the amount of tobacco-related illness and mortality was to reduce the level of addiction, a goal that could be accomplished only by preventing children and adolescents from starting to use tobacco." *Id.* at 127-128. The FDA's regulations were therefore designed to protect minors.

Nevertheless, this Court reversed the FDA's determination. Even though the statutory language had apparently been satisfied, this Court found that the Act did not cover tobacco use. This Court based its decision on the fact that Congress directly regulated tobacco under other statutes and that the agency was asserting jurisdiction for the first time to regulate an industry constituting a significant portion of the American economy. *Id.* at 159-160. This Court concluded: "[W]e are confident that Congress could not have intended to delegate a decision of such economic and political significance to an agency in so cryptic a fashion." *Id.* at 160.

While acknowledging that tobacco use among children "poses perhaps the single most significant threat to public health in the United States," this Court counseled:

> [N]o matter how "important, conspicuous, and controversial" the issue, and regardless of how likely the public is to hold the Executive Branch politically accountable, . . . an administrative agency's power to

> regulate in the public interest must always be grounded in a valid grant of authority from Congress. And "[i]n our anxiety to effectuate the congressional purpose of protecting the public, we must take care not to extend the scope of the statute beyond the point where Congress indicated it would stop."

Id. at 161 (citation omitted.).

So it is here. Even if carbon dioxide satisfies the statutory definition of an "air pollutant" under the Clean Air Act, carbon dioxide emissions are already being addressed to the maximum extent practicable under the Department of Transportation's CAFE standards for fuel efficiency, as discussed in detail above. And of course, it is precisely because of petitioner-like claims that global warming "poses perhaps the single most significant threat" to public health and welfare that a more comprehensive approach—than the regulation of new vehicle emissions under the Clean Air Act—is warranted. Indeed, the Environmental Protection Agency has documented just such an approach:

> [T]he President has laid out a comprehensive approach to climate change that calls for near-term voluntary actions and incentives along with programs aimed at reducing scientific uncertainties and encouraging technological development so that the government may effectively and efficiently address the climate change issue over the long term.

68 Fed. Reg. at 52930.

In 2001, the President announced the Climate Change Research Initiative "to study areas of uncertainty and identify priority areas where investments can make a difference." *Id.* The strategic plan for this initiative has been issued and is being pursued. *Id.* at 52930-31. Recently, the Department of Transportation promulgated new rules increasing the CAFE standards for light trucks, including sport utility vehicles. *Id.* at

52931. These new standards will avoid 31 million metric tons of carbon dioxide emissions over the life of the affected vehicles. *Id.* The President has established public-private partnerships with automakers to promote zero-emission hydrogen powered vehicles and sought billions of dollars in tax credits for consumers to buy fuel cell and hybrid vehicles. *Id.* The Department of Energy is working with 14 industry groups to find alternative means of using and conserving fuel. *Id.* In 2002, the President called for voluntary reductions in greenhouse gas emissions, to which industry groups have responded, with the goal of reducing such emissions equivalent "to taking 70 million (or one out of three) cars off the road" over a ten-year period. *Id.* Also, in 2002 the Environmental Protection Agency launched its Climate Leaders program. Under this program, "more than 40 companies from almost all of the most energy-intensive industry sectors" have agreed to work with the agency in setting aggressive emission reduction goals and reporting their progress. *Id.* As a testament to the effectiveness of volunteer programs, the agency's Energy Star program is an example. Energy Star is a voluntary labeling program informing consumers about energy efficient products. *Id.* Under this program, more than 750 million Energy Star products crossing more than 30 product categories have been purchased from 1993 to 2003. *Id.* Reductions of greenhouse gas emissions from these products were the equivalent of removing 10 million cars from the street in one year. *Id.*

In addition, the Environmental Protection Agency has partnerships with natural gas companies, landfills, and coal mining interests to reduce and recapture methane emissions. *Id.* Other agency partnerships are resulting in drastic reductions of the most potent greenhouse gases, including sulfur, hexafluoride, per fluorocarbons, and hydrofluorocarbons. *Id.* Beyond this, the Administration is setting up a national greenhouse gas registry to aid in future voluntary or mandatory emissions reductions and to facilitate emission credits and trades. *Id.* The Environmental Protection Agency and other

government agencies are also working with research groups to develop cleaner fuels and more efficient cars and other modes of transportation. *Id.* at 52932-33.

This overall approach lends credence to the Environmental Protection Agency's claim that it would be counterproductive to address carbon dioxide emissions piecemeal through the Clean Air Act. According to the agency, unilateral regulation of vehicle emissions, as Petitioners seek, would weaken, not strengthen, "U.S. efforts to persuade key developing countries to reduce the GHG [greenhouse gas] intensities of their economies." *Id.* at 52931. Because of the large populations and growing economies of some developing nations, these countries often allow their emissions to increase precisely *because* the United States is decreasing its emissions. *Id.* This was the case when the United States sought to control substances that deplete stratospheric ozone. "Over time, U.S. emission reductions were more than offset by emission increases in other countries." *Id.* at n.5.

It was concern for this phenomenon that has resulted in consistent congressional rejection of strict regulatory approaches to carbon dioxide emissions in the United States. While the Kyoto Protocol was being negotiated, the Senate voted 95 to 0 that the United States would not sign on to any protocol that would limit United States greenhouse gas emissions—particularly carbon dioxide—unless the protocol set specific and scheduled emission limitations for developing countries. *Id.* at 52927. This action would have been strange if Congress had expected drastic carbon dioxide reductions from the regulation of "air pollutants" under the Clean Air Act, which the Petitioners hope to achieve by this suit.

Since enactment of the Clean Air Act amendments in 1990, "numerous bills to control GHG [greenhouse gas] emissions from mobile and stationary sources have failed to win passage." *Id.* at 52928. However, one day after the adoption of the 1990 amendments, Congress passed the Global Change Research Act

that established the Committee on Earth and Environmental Sciences to coordinate a ten-year research program on global warming. *Id.* at 52927. In that same year, Congress promulgated Title XXIV of the Food and Agricultural Act to investigate climate change implications for agriculture. *Id.*

Taken together, these actions suggest a need for a broad and coordinated approach to global warming issues and exhibit congressional intent to address these issues through means other than the Clean Air Act. Thus, if this Court reaches the merits of the case, this Court should conclude that Congress did not intend to regulate carbon dioxide as an "air pollutant" under section 202(a)(1) of the Act. "Congress could not have intended to delegate a decision of such economic and political significance to an agency in so cryptic a fashion." *Food and Drug Administration*, 529 U.S. at 160.

CONCLUSION

For the foregoing reasons, this Court should either dismiss the case for lack of standing, or uphold the EPA Administrator's discretionary determination not to regulate carbon dioxide as an "air pollutant" under the Clean Air Act.

DATED: October, 2006.

Respectfully submitted,

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Supreme Court of the United States

COMMONWEALTH OF MASSACHUSETTS, *et al.*,
Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, *et al.*,
Respondents.

On Petition for Writ of Certiorari to the United States Court of Appeals for the District of Columbia

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BRIEF OF *AMICI CURIAE* OCEAN AND COASTAL CONSERVATION INTERESTS IN SUPPORT OF PETITIONERS

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FDA v. Brown & Williamson Tobacco Corp., 529 U.S. 120 (2000) 5

Massachusetts v. Envtl. Prot. Agency, 415 F.3d 50 (D.C. Cir. 2005) 6, 7, 8

PGA Tour, Inc. v. Martin, 532 U.S. 661 (2001) 5

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42 U.S.C. § 7521 3

42 U.S.C. § 7521(a)(1) 2

42 U.S.C. § 7602(g) 3, 5

42 U.S.C. § 7602(h) 3

REGULATIONS

68 Fed. Reg. 52,922 (Sep. 8, 2003) 4, 5, 6, 7

71 Fed. Reg. 26,852 (May 9, 2006) 16

LEGISLATIVE HISTORY

H.R. Rep. No. 91-1146 (June 3, 1970), *reprinted in* 1970 U.S.C.C.A.N. 5356 3

H.R. Conf. Rep. 95-564 (Aug. 3, 1977), *reprinted in* 1977 U.S.C.C.A.N. 1502 4

COURT RULES

S. Ct. R. 37.6 1

OTHER AUTHORITIES

Alley, R.B., P.U. Clark, P. Huybrechts and I. Joughin, *Ice-sheet and sea-level changes*, 310 Science 456-460 (2005) 13

TABLE OF AUTHORITIES—Continued

Page

Anthes, R.A., et al., *Hurricanes and global warming—potential linkages and consequences*, 87 Bulletin of the American Meteorological Society 623-628 (2006)..... 17, 18

Caldeira, K. and M.E. Wickett, *Anthropologic carbon and ocean pH*, 425 Nature 365 (2003).... 11

Cayan, D., et al., *Projecting Future Sea Level Rise: A Report for California Climate Change Center* (March 2006) 19

Costanza, R., et al., *The Value of the World's Ecosystem Services and Natural Capital*, 387 Nature 253 (1997)..... 8

Crossett, K.M., et al., *Population Trends Along the Coastal United States: 1980-2008* (Nat'l Oceanic and Atmospheric Administration, September 2004)..... 8

Emanuel, K., *Increasing destructiveness of tropical cyclones over the past 30 years*, 436 Nature 686-688 (2005) 18

Griggs, G.B., *Coastal Cliff Erosion in San Diego County* (2002) *at* http://repositories.cdlib.org/cgi/viewcontent.cgi?article=1091&context=csgc (last visited August 29, 2006)..... 20

Harley, C.D.G., et al., *The impacts of climate change in coastal marine systems*, 9 Ecology Letters 228-241 (2006) 16, 17

Hays, G.C., A.J. Richardson and C. Robinson, *Climate change and marine plankton*, 20 Trends in Ecology and Evolution 337-344 (2005)..... 16, 17

H.J. Heinz III Center for Science, Economics and the Environment, *Evaluation of Erosion Hazards*, Report Brief (2000)..... 20

TABLE OF AUTHORITIES—Continued

Page

Houghton, J.T., et al. (eds.), Climate Change 2001: The Scientific Basis, Cambridge University Press, Cambridge, U.K. (2001).....9, 10, 13, 14

Hoyos, C.D., P.A. Agudelo, P.J. Webster and J.A. Curry, *Deconvolution of the factors contributing to the increase in global hurricane intensity*, 312 Science 94-97 (2006) 18

Hughes, T.P., et al., *Climate change, human impacts, and the resilience of coral reefs*, 301 Science 929-933 (2003)..... 15

Joughin, I., W. Abdalati and M. Fahnestock, *Large fluctuations in speed on Greenland's Jakobshavn Isbrae glacier*, 432 Nature 608-610 (2004)..... 14

Kildow, J. and C. Colgan, *California's Ocean Economy Report to the Resources Agency, State of California* (July 2005) 8

King, P., *The Fiscal Impact of Beaches in California*. Public Research Institute, San Francisco State University (September 1999)... 9

Kleypas, J.A., R.A. Feely, V.J. Fabry, C. Langdon, C.L. Sabine and L.L. Robbins, *Impacts of Ocean Acidification on Coral Reefs and other Marine Calcifiers: A Guide for Future Research* (2006)..... 11, 12

Knutson, T.R. and R.E. Tuleya, *Impact of CO2-induced warming on simulated hurricane intensity and precipitation: Sensitivity to the choice of climate model and convection parameterization*, 17 Journal of Climate 3477-3495 (2004)..... 17

TABLE OF AUTHORITIES—Continued

Page

McFarlane, G.A., J.R. King and R.J. Beamish, *Have there been recent changes in climate? Ask the fish*, 47 Progress in Oceanography 147–69 (2000)..... 16

National Research Council. Clean Coastal Waters: Understanding and Reducing the Effects of Nutrient Pollution. National Academy Press, Washington, D.C. (2000) 6

National Research Council. *Climate Change Science: An Analysis of Some Key Questions.* National Academy Press, Washington, D.C. (2001)..... *passim*

Petit, J.R., et al., *Climate and atmospheric history of the past 420,000 years from the Vostok ice core, Antarctica.* 399 Nature 429-436 (1999)..... 10

Pew Oceans Commission, *America's Living Oceans: Charting a Course for Sea Change* (June 2003) 20

Sabine, C.L., et al., *The oceanic sink for anthropogenic CO2*, 305 Science 367-371 (2004)..... 11

Titus, J.G. and C. Richman, *Maps of lands vulnerable to sea level rise: Modeled elevations along the US Atlantic and Gulf Coasts*, 18 Climate Research 205-228 (2001)..... 19

Trenberth, K.E., *Uncertainty in hurricanes and global warming*, 308 Science 1753-1754 (2005)..... 17

Trenberth, K.E. and D.J. Shea, *Atlantic hurricanes and natural variability in 2005*, 33 Geophysical Research Letters L12704, doi:10.1029/2006GL026894 (2006)..... 18

TABLE OF AUTHORITIES—Continued

Page

U.S. Commission on Ocean Policy, *An Ocean Blueprint for the 21st Century Final Report* (2004) 8, 15, 17

Webster, P.J., G.J. Holland, J.A. Curry and H.-R. Chang, *Changes in tropical cyclone number, duration, and intensity in a warming environment*, 309 Science 1844-1846 (2005) 18

Wilkinson, C. (ed.), *Status of Coral Reefs of the World: 2004*, Australian Institute of Marine Science (2004) 15, 16

Wu, S.-Y., R. Najjar and J. Siewert, *Impact of Sea-Level Rise on the Mid- and Upper-Atlantic Coast* (Consortium for Atlantic Regional Assessment, 2005) 19

INTEREST OF *AMICI CURIAE* [1]

Amici are organizations and individuals[2] committed to conservation of ocean and coastal ecosystems that provide a wide variety of goods and services of tremendous value to human society including food, commodities, recreation, clean air, and a dazzling array of marine life that enriches the quality of life for all Americans. *Amici* represent a diverse set of interests and expertise in marine conservation. Some organizations have been involved in comprehensive marine conservation and public education efforts for decades. Some are scientists and explorers who have devoted their careers to studying the oceans and improving our understanding of their value and vulnerability. Others are organizations dedicated to protecting marine life and rescuing endangered species. Collectively, these organizations speak for millions of Americans who share a common concern about the impacts of human-induced climate change on these marine ecosystems, and a strong desire to do something about it before it is too late.

SUMMARY OF ARGUMENT

Climate change is real. For evidence of its impact, one need only look to the oceans and coasts of the United States. Ocean temperatures are increasing. Ocean chemistry is changing and becoming more acidic. The polar caps are melting and sea levels are rising. Coastlines are eroding and estuaries are changing. Hurricanes are becoming more powerful and destructive. Coral reefs are dying and the marine foodweb is unraveling. Marine life is under increasing stress as life zones diminish. Human communities closest to the

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[1] All parties have consented to the filing of this brief. Pursuant to this Court's Rule 37.6, *Amici* state that no counsel for any party in this case authored this brief in whole or in part, and no person other than *Amici* and their counsel has made a monetary contribution to the preparation and submission of this brief.

[2] A description of the Amici is included in the Appendix.

oceans and coasts are bearing the brunt of the profound changes underway in the marine environment.

There is a strong and growing scientific consensus that all of these effects are closely linked to the emission of so-called greenhouse gases, including the four compounds at issue here—carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons—that Petitioners seek to have regulated under section 202 of Clean Air Act. EPA declines to act, claiming that it lacks authority to regulate greenhouse gases, and that even if it had authority, it would not use it, for policy reasons. As Petitioners have ably demonstrated in their merits brief, neither contention is tenable. Rather than belabor the legal arguments, *Amici* will briefly review the statutory provisions that plainly authorize EPA to regulate greenhouse gases, and then turn to the scientific evidence that would support a finding that the four pollutants at issue "may reasonably be anticipated to endanger human health or welfare." Indeed, climate change presents a more profound threat to human health and welfare than anything else regulated under the Clean Air Act.

ARGUMENT

I. THE PLAIN LANGUAGE OF SECTION 202 OF THE CLEAN AIR ACT NOT ONLY AUTHORIZES EPA TO REGULATE AIR POLLUTANTS THAT CONTRIBUTE TO CLIMATE CHANGE, BUT UPON THE APPROPRIATE "ENDANGERMENT" FINDING, REQUIRES THAT IT DO SO.

Section 202 of the Clean Air Act provides:

> The Administrator shall by regulation prescribe . . . standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.

42 U.S.C. § 7521(a)(1).

In section 302(g) the Act defines "air pollutant[s]" as "any air pollution agent or combination of such agents, *including any physical* [*or*] *chemical . . . substance or matter* which is emitted into or otherwise enters the ambient air . . . ." 42 U.S.C. § 7602(g) (emphasis added). In section 302(h) the Act defines "welfare" to include "effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and *climate*, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants." 42 U.S.C. § 7602(h) (emphasis added).

Under section 202, a two-part process is employed for regulating potentially dangerous pollutants. The Administrator makes a threshold decision regarding whether a particular pollutant from new vehicles "cause[s], or contribute[s] to, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7521. If, in the Administrator's "judgment," an air pollutant causes or contributes to pollution that may be reasonably anticipated to endanger public health or welfare, that pollutant must be regulated pursuant to the provisions described in the remainder of section 202. *Id.* The Administrator is to take a broad, proactive approach to this determination. Before the 1977 Amendments to the Clean Air Act, section 202(a)(1) required the Administrator to regulate air pollution from motor vehicles which "endanger[s] the public health or welfare." H.R. Rep. No. 91-1146 (June 3, 1970), *reprinted in* 1970 U.S.C.C.A.N. 5356, 5359. In 1976, the D.C. Circuit interpreted the "endangers" language as permitting "regulatory action to prevent harm, even if the regulator is less than certain that harm is otherwise inevitable." *Ethyl Corp. v. Envtl. Prot. Agency*, 541 F.2d 1, 25 (D.C. Cir. 1976) (*en banc*) ("*Ethyl Corp.*"). As the D.C Circuit explained:

> A statute allowing for regulation in the face of danger is, necessarily, a precautionary statute. Regulatory action

> may be taken before the threatened harm occurs; indeed, the very existence of such precautionary legislation would seem to demand that regulatory action precede, and, optimally, prevent, the perceived threat. As should be apparent, the 'will endanger' language of Section 211(c)(1)(A) makes it such a precautionary statute.

541 F.2d at 13.

In 1977, Congress amended section 202(a)(1) and the other standard-setting provisions in the Clean Air Act to require regulation where endangerment "may reasonably be anticipated." H.R. Conf. Rep. 95-564 (Aug. 3, 1977), *reprinted in* 1977 U.S.C.C.A.N. 1502, 1564. This change reflects Congress's endorsement of the "precautionary approach" described in *Ethyl Corp.*, and indicates its intent that EPA be diligent in identifying and regulating pollutants that may reasonably be anticipated to endanger public health and welfare. This requires the Administrator to consider the best available scientific information, and not wait for conclusive proof, by which time it may be too late to avoid the harm that the Act was designed to prevent.

A. EPA Has Authority to Regulate the Greenhouse Gases at Issue.

Scientists refer to the four compounds at issue—carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and hydrofluorocarbons—as greenhouse gases. EPA argues that it lacks authority to regulate greenhouse gases, claiming that such substances are not "air pollutants" within the meaning of the Clean Air Act. *See* 68 Fed. Reg. 52,922, 52,928 (Sep. 8, 2003). EPA's argument defies the plain language of the statute. Section 202 clearly establishes EPA's authority to regulate pollutants that affect the climate. *See Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 843 n.9 (1984) ("If a court, employing traditional tools of statutory construction, ascertains that Congress had an inten-

tion on the precise question at issue, that intention is the law and must be given effect.")

In fact, Congress left EPA little discretion in determining what qualifies as "air pollutants." Section 302(g) defines "air pollutants" to "includ[e] *any* physical [or] chemical . . . substance or matter which is emitted into or otherwise enters the ambient air." 42 U.S.C. § 7602(g) (emphasis added). Carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons—as physical and chemical substances that are emitted into the air – plainly fall within this definition and are thus within the Administrator's regulatory authority.

In denying the petition, however, EPA claims that these four substances are "not air pollutants," and that it must be cautious about "using broadly worded statutory authority to regulate in areas raising unusually significant economic and political issues when Congress has specifically addressed those areas in other statutes." 68 Fed. Reg. at 52,925 (*citing FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000)). EPA explains that the only provisions of the Clean Air Act that specifically mention carbon dioxide or global warming are non-regulatory. Further, EPA points to Congress's decision to regulate separately stratospheric ozone depletion as evidence that when Congress intends to address climate change, it will do so in separate legislation.

EPA's arguments simply do not overcome the plain language of the Act. Regardless of whether Congress was contemplating pollutants associated with climate change when it enacted or amended the Clean Air Act, the definition of "pollutant" enables EPA to reach new pollution, as well as old. *See Ethyl Corp.*, 541 F.2d at 13; *see also*, *PGA Tour, Inc. v. Martin*, 532 U.S. 661, 689 (2001) (explaining that statutes can be applied to situations not expressly anticipated by Congress). The Administrator is not entitled to turn a blind eye to advancements in scientific knowledge that reveal new dangers from substances once considered benign or even

beneficial. For example, nitrogen and phosphorous are nutrients necessary for plants and animals to grow and flourish. But excessive concentrations of these nutrients cause serious environmental problems and threats to public health. *See* National Research Council, Clean Coastal Waters: Understanding and Reducing the Effects of Nutrient Pollution. National Academy Press, Washington, D.C., 15 (2000) (Excess nutrients linked to red tides, fish kills, marine mammal deaths, outbreaks of shellfish poisonings, loss of seagrass habitats, coral reef destruction, and the Gulf of Mexico's "dead zone.").

B. EPA May Not Decline Rulemaking For Reasons Not Enumerated in Section 202.

Alternatively, EPA argues that even if it has authority to regulate greenhouse gases it is not inclined to do so for various reasons including, *inter alia*: the multiple sources of pollutants that contribute to climate change; the effect of unilateral regulation of car emissions on international efforts to reduce emissions; and the Administration's efforts to address climate change through other programs. *See* 68 Fed. Reg. at 52,931-33. As Petitioners have pointed out, however, several of these considerations fall well outside the factors which Congress authorized EPA to consider in implementing its section 202 authority. *See* Petition for Certiorari, 14-16. Section 202(a)(1) assigns the Administrator the responsibility to determine whether a pollutant may reasonably be anticipated to constitute an endangerment, but not broad authority to decline to make an endangerment finding on the basis of a wide range of policy considerations. As Judge Tatel explains in his dissenting opinion:

> EPA has transformed the limited discretion given to the Administrator under section 202—the discretion to determine whether or not an air pollutant causes or contributes to pollution which may reasonably be anticipated to endanger public health or welfare—into the

> discretion to withhold regulation because it thinks such regulation bad policy. But Congress did not give EPA this broader authority, and the agency may not usurp it.

Massachusetts v. Envtl. Prot. Agency, 415 F.3d 50, 74 (D.C. Cir. 2005).

The only decision the Administrator is authorized to make pursuant to section 202(a)(1) is the decision whether a pollutant causes or contributes to air pollution which may reasonably be anticipated to endanger public health or welfare. The Administrator does not have the discretion to ignore the standard set forth in section 202 in declining to regulate. Here, EPA acted outside of its statutory authority in denying the petition.

II. THE WEIGHT OF SCIENTIFIC EVIDENCE SUPPORTS A FINDING THAT GREENHOUSE GASES "MAY REASONABLY BE ANTICIPATED TO ENDANGER PUBLIC HEALTH OR WELFARE."

One of the reasons EPA cites for not regulating greenhouse gas emissions under section 202 is "scientific uncertainty." 68 Fed. Reg. at 52,931-33. However, as pointed out by the distinguished group of climate scientists who filed an *amicus curiae* brief in support of granting the Petition for Certiorari and who will be submitting a brief on the merits, both EPA and the panel majority below misrepresent the key findings of the National Academy of Sciences and National Research Council in the 2001 report to Congress, *Climate Change Science: An Analysis of Some Key Questions*. *See* Brief *Amicus Curiae* of Climate Scientists in Support of Petitioners, 17-22.

In fact, contrary to EPA's view, there is a strong scientific consensus that increasing levels of greenhouse gases, particularly carbon dioxide, are already having a dramatic impact on ocean systems and all life, including humanity, that depend

upon them. To be sure, there is still considerable uncertainty regarding the magnitude and timing of the changes that are likely to occur. But these very uncertainties carry significant risks of potentially irreversible and catastrophic consequences that argue for prudent action now.

A. The Continued Health and Vitality of Oceans and Coasts is Crucial to Public Health and Welfare.

In 2003, it was estimated that 153 million Americans, or 53% of the United States population, lived in U.S. coastal counties. Kristen M. Crossett et al., *Population Trends Along the Coastal United States: 1980-2008*, 1 (Nat'l Oceanic and Atmospheric Administration, September 2004). *See also*, *Massachusetts v. EPA*, 415 F.3d at 79. The estimated socio-economic value of global ocean and coastal ecosystems is $21 trillion per year through food production, recreation, nutrient recycling, climate regulation, and the oceans' influence over the chemical composition of the atmosphere. R. Costanza et al., *The Value of the World's Ecosystem Services and Natural Capital*, 387 Nature 253 (1997). In the United States, coastal watershed counties contribute over $4.5 trillion per year, half of the nation's gross domestic product, involving about 60 million jobs—many of which are tied to industries directly dependent on healthy coastal and ocean ecosystems and living resources, such as recreation, tourism, and fisheries. U.S. Commission on Ocean Policy, *An Ocean Blueprint for the 21st Century Final Report*, 32-33 (2004). The United States has an extraordinary interest in preserving and protecting the population and industries of the coastal areas.

Coastal fisheries and coastal dependant industries in the United States are large economic contributors. The total value of U.S. commercial fisheries was over $3 billion in 2001. J. Kildow and C. Colgan, *California's Ocean Economy Report to the Resources Agency, State of California*, 35 (July 2005). California beaches alone generate $14 billion in direct

revenues, contribute $73 billion to the national economy, generate $2.6 billion in direct federal taxes, generate $14 billion in indirect taxes, and provide over 883,000 jobs. Philip King, *The Fiscal Impact of Beaches in California*, 3. Public Research Institute, San Francisco State University (September 1999). On average, a 12-inch rise in sea level would inundate 100 feet of dry beach, greatly reducing the area and recreational amenities of many beaches. Increased storminess combined with the direct inundation from sea level would reduce many of the southern California recreational beaches to narrow, hazardous strips of sand with ocean waves on the seaward side and urban development on the inland side. Shore protection would escalate while beach recreation, tourism revenues, taxes and jobs would plummet.

B. Human Activities Are Increasing Atmospheric Concentrations of Carbon Dioxide, Thereby Contributing to Changes in Climate and the Marine Environment.

Most of this discussion focuses on the effects of higher carbon dioxide levels on the ocean environment. Carbon dioxide is the primary contributor among a suite of atmospheric gases that contribute to climate change. Present-day levels of about 370-380 parts per million by volume (ppmv) are unprecedented over the past 420,000 years. Based on historic data (derived from Greenland and Antarctic ice cores,) concentrations of carbon dioxide did not rise much above 280 ppmv prior to the industrial revolution. Today, carbon dioxide levels are increasing at a rate of 1.5 ppmv per year, with the primary sources being fossil fuel burning and tropical deforestation. Depending on the level of future emissions, concentrations could reach 800-900 ppmv by the year 2100. *See* J.T. Houghton et al. (eds.), Climate Change 2001: The Scientific Basis, Cambridge University Press, Cambridge, U.K. (2001) ("Houghton et al."); National Research Council, *Climate Change Science: An Analysis of*

Some Key Questions, National Academy Press, Washington, D.C., 3 (2001) ("Climate Change Science"); J.R. Petit et al., *Climate and atmospheric history of the past 420,000 years from the Vostok ice core, Antarctica*, 399 Nature 429-436, 433 (1999).

1. *Increased carbon dioxide levels are affecting atmospheric and ocean temperatures.*

The world's climate is warming; it is going to get much warmer; and humans are significantly responsible. There is scientific consensus that the observed global warming over the past century—of 0.4 to 0.8°C (0.7 to 1.5°F)—is due to increases in greenhouse gas concentrations and that this warming has been particularly strong over the past 20 years. In confirming this finding by the Intergovernmental Panel on Climate Change (IPCC), the United States National Research Council also affirmed the scientific validity of the IPCC's prediction that warming would increase by the end of the century by 1.4 to 5.8°C (2.5 to 10.4°F).[3] This warming will be greater over higher latitudes. Houghton et al. at 26; *Climate Change Science* at 3.

2. *Increased carbon dioxide levels are creating a fundamental and detrimental shift in ocean chemistry.*

Through the absorption of a substantial portion of the carbon dioxide emitted by human activities, the oceans are becoming more acidic, with dramatic consequences for organisms from corals to the planktonic foundation of marine food webs.

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[3] The National Research Council's review of the state of climate science at the White House's request reaffirmed the scientific soundness of the IPCC's projections of greenhouse gas loadings in the atmosphere, global warming, ocean warming, and sea-level rise. *See Climate Change Science* at 22-23.

On timescales of several thousands of years, the oceans will ultimately absorb about 90 percent of the carbon dioxide in the atmosphere. However, because of slow mixing time, the ocean has only taken up about 30 percent of the carbon dioxide emitted in the past twenty years or so. From 1800 to 1994, the ocean has absorbed about 48 percent of fossil-fuel and cement-manufacturing emissions. C.L. Sabine et al., *The oceanic sink for anthropogenic CO2*, 305 Science 367-371 (2004).

While this "ocean sponge" effect has certainly forestalled more pronounced climate change above the surface, it is substantially lowering pH and saturation states of the carbonate minerals, making it increasingly difficult for the many major groups of marine organisms that use these minerals to build skeletons and shells. Assuming carbon dioxide emissions continue at the current pace, surface water pH levels will decrease by 0.4 pH units relative to the preindustrial level by 2100, lower than it has been in millions of years. J.A. Kleypas, R.A. Feely, V.J. Fabry, C. Langdon, C.L. Sabine and L.L. Robbins, *Impacts of Ocean Acidification on Coral Reefs and other Marine Calcifiers: A Guide for Future Research*, Report of a workshop held 18-20 April 2005 in St. Petersburg, Fla., sponsored by NSF, NOAA, and the U.S. Geological Survey, 69 (2006) ("Kleypas et al."); *see also*, K. Caldeira and M.E. Wickett, *Anthropologic carbon and ocean pH*, 425 Nature 365 (2003).

Calcifying organisms are sensitive to changes in ocean chemistry; even small changes will have large impacts, and it is clear that their ability to grow calcium carbonate shells and skeletons will decrease with increasing acidification. Extrapolations of laboratory experiments indicate that calcification rates will decrease up to 60 percent during the 21st century. This reduction will affect individual corals and the ability of reefs to maintain a positive balance between reef building and reef erosion, which is the process by which corals' calcium

carbonate skeletons are rubbed, scraped, and chewed away by a combination of physical forces and reef fish. Kleypas et al. at 1, 5.

Basic chemistry dictates that as carbon dioxide levels in seawater increase, not only will calcification decrease, but, at some point, calcium carbonate skeletons will also dissolve. Although there are many questions about the particulars of organism survival and ecosystem effects, it is clear that at some threshold level of carbon dioxide, reef dissolution will exceed calcification—the reef equivalent of osteoporosis. Although that may occur at different times and in different ways from reef to reef, it will be yet another substantial blow to the prospects for reef survival. *Id.* at 26-27.

There are also a variety of planktonic calcifying organisms, many of which form an important foundation of marine food webs. As with corals, there is clear evidence that elevated carbon dioxide levels reduce calcification in these species. In fact, data suggest that in some plankton species, this is not a linear relationship as it is among corals, but rather that there may be a threshold value below which there will be sudden and large decreases in calcification rates. *Id.* at 30. And, as with corals, it is not yet known whether or how planktonic calcifiers can adapt to reduced calcification rates. *Id.* at 31. However, since calcification does confer advantages to these species, decreased calcification is likely to compromise their fitness and thus impact marine food webs, which would substantially alter the biodiversity and productivity of the ocean. *Id.* at 69.

C. Changes to the Ocean Environment Will Have Major Adverse Effects on Human Safety, the Economy, and the Natural Environment.

Although a relatively slow process compared to the warming of the atmosphere, the warming of oceans is occurring by virtue of their interaction with the air above them. Since the

1950s, the top 10,000 feet of the oceans have warmed by an average of 0.05°C (0.09°F), *Climate Change Science* at 16. Temperatures at the sea surface, where hurricanes are spawned and corals live, have warmed 0.4 to 0.8°C since the late 1800s. Houghton et al. at 35. The implications of this warming are numerous and serious from a public health and welfare perspective. Among these implications are:

1. ***Sea-level rise will have negative effects on the health and welfare of U.S. populations in coastal areas.***

The changing climate causes sea level to rise in two basic ways: warmer ocean waters take up greater volume and melting glaciers and ice fields increase water supply to the oceans.

Estimates of sea-level rise over the past century range from 0.10 to 0.20 meters, with average rates of 1.0 to 2.0 mm per year. Scientists consider it very likely that global warming during this period contributed substantially to these increases. There is a great deal of historical support for this conclusion; the correlation among past changes in atmospheric carbon dioxide, global warming, and changes in global sea level is well represented in the geologic record. Houghton et al. at 641, 643; *see also,* R.B. Alley, P.U. Clark, P. Huybrechts and I. Joughin, *Ice-sheet and sea-level changes*, 310 Science 456-460 (2005).

Based on climate change projections, scientists consider it highly likely that sea levels will increase between 0.09 and 0.88 meters for 1990 to 2100, with a central value of 0.48 meters. This represents an increase of 2.2 to 4.4 times the 20th century rate. Houghton et al. at 642.

Although this steady increase is documented, there is concern by scientists that the ice caps in Greenland and Antarctica could melt, causing even greater sea level rise. Recent reports point to startling changes at the margins of the Greenland and Antarctic ice sheets which indicate that projec-

tions of sea-level rise need to be revised upward. The collapse of the Larsen B Ice Shelf in 2002 was followed by an acceleration of its major tributary glaciers by two- to eight-fold, contributing about 0.07 mm per year to sea-level rise.[4] Alley et al. at 458. This process is also playing out along the Amundsen Coast of the Antarctic Peninsula. *Id.*

Similar warming-caused losses of glacier-restricting ice shelves along the coast of Greenland have led to increased contributions to sea-level rise of up to 0.09 mm per year. I. Joughin, W. Abdalati and M. Fahnestock, *Large fluctuations in speed on Greenland's Jakobshavn Isbrae glacier*, 432 Nature 608-610 (2004). For some time, the West Antarctic ice sheet (WAIS) has been the subject of great scientific focus because it contains enough ice to raise sea levels by 6 meters and is relatively unstable. Houghton et al. at 642.

2. *Warming and acidification of the oceans pose grave threats to coral reefs and will adversely affect all marine life.*

Immersed in warming oceans, sensitive marine organisms must adapt, alter their geographic distribution (i.e., shift poleward), or face extinction. There is scientific evidence for all of these responses. Degradation of marine life will negatively affect U.S. population by affecting food suppliers, coastal fisheries, marine biological diversity, and the economy.

Coral reefs are among the most sensitive ecosystems to climate change, and the most conservative estimates suggest

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[4] It is the melting of land-based glaciers and ice caps that increases sea levels, just as pouring water in a bucket causes the level to rise. On the other hand, ice shelves, which float on the water surface, do not add directly to sea-level rise as they melt (just as ice melting in a drink does not cause the level of liquid to rise). But, ice shelves do block the flow of glaciers like dams, and when the shelves break apart, land-based ice flows more rapidly to the sea, increasing the rate of sea-level rise.

that half of all reefs will be destroyed by 2030-2050. C. Wilkinson ed. *Status of Coral Reefs of the World: 2004*, 25. Australian Institute of Marine Science (2004) ("Wilkinson"). Much more than their beauty and recreational value will be lost. Coral reefs buffer shorelines from storms and erosion and provide home, food, and nursery for tens of thousands of marine species. They provide an estimated $375 billion per year in goods and services worldwide, with approximately 500 million people dependent upon them for food, materials, or income. The U.S. has a significant stake in the fate of reef systems worldwide. Approximately half of all U.S.-managed commercial fish species depend on coral reefs for at least a portion of their life cycle. U.S. Commission on Ocean Policy at 321-22.

Extinction due to increases in sea-surface temperatures is a real prospect for shallow-water, tropical corals. It is clear that many corals are operating within very close margins of their thermal tolerance, with bleaching occurring for many species at about 1°C above mean summer maximum temperatures, and causing widespread concern as this threshold will be chronically exceeded as temperatures rise over the next 50 years. T.P. Hughes et al., *Climate change, human impacts, and the resilience of coral reefs*, 301 Science 929-933, 930 (2003). There is evidence that at least some corals and their algal symbionts (called zooxanthellae, which provide nourishment and lend color to corals) may be able to adapt to increasing temperatures, but it is not clear that they will be able to adapt quickly enough to keep pace with the accelerating rate of environmental change. *Id.*

Evidence from the field is not encouraging. About 20 percent of the world's coral reefs have been effectively destroyed as a result of increasing sea-surface temperatures and show no immediate prospects for recovery. Another 24 percent of them are under imminent risk of collapse, and a further 26 percent are under a longer-term threat of collapse.

Wilkinson at 7. Caribbean reefs are in catastrophic decline, with two of the major reef-building coral species in this area—staghorn and elkhorn—recently listed as endangered under the U.S. Endangered Species Act. *Id.* at 14; 71 Fed. Reg. 26,852 (May 9, 2006) (to be codified at 50 C.F.R. pt. 223).

A major global bleaching event in 1998 destroyed 16 percent of the world's coral reefs, with most of the damage in the Indian Ocean (50 percent destroyed) and the western Pacific. Unfortunately, what was then a once-in-a-thousand-years event will become a regular occurrence within 50 years based on projections of tropical sea-surface temperature increases in the range of 1 to 3°C by 2100. Wilkinson at 21.

Ocean warming is having an impact on the distributions of other important species. For example, warm-water populations of copepods, small marine organisms that form a vital link in the food web as a food source for the larvae of many commercial and non-commercial marine fish, have moved 1,000 km northward in the northeast Atlantic over the past 40 years, accompanied by retraction in the range of their cold-water cousins. G.C. Hays, A.J. Richardson and C. Robinson, *Climate change and marine plankton*, 20 Trends in Ecology and Evolution 337-344, 339 (2005) ("Hays et al."). Similar shifts have been shown among marine snails, corals and fish. C.D.G. Harley et al., *The impacts of climate change in coastal marine systems*, 9 Ecology Letters 228-241, 234 (2006) ("Harley et al."). Some of these adjustments can be abrupt, affecting the survival of not only the adjusting species, but also many others, with huge implications for commercial fisheries and the basic functioning of marine ecosystems. Hays et al. at 340; G.A. McFarlane, J.R. King and R.J. Beamish, *Have there been recent changes in climate? Ask the fish*, 47 Progress in Oceanography 147–69 (2000).

If species that otherwise depend on one another, for instance as predator and prey, respond differently to ocean

warming, the consequences can be significant. There is evidence of warming-induced mismatches in the timing of the spawning of certain zooplankton, the arrival of fish larvae, and blooms of the phytoplankton they eat, thus jeopardizing the survival of fish species and potentially affecting commercial fisheries. Harley et al. at 232; Hays et al. at 342.

Alteration of aquatic habitats and species distributions by warming temperatures also exacerbates problems with invasive species, making native populations more susceptible to invasion. U.S. Commission on Ocean Policy at 253.

3. *Hurricane intensity will likely increase because of warmer oceans.*

There is growing evidence that the theoretical link between warming seas and hurricane intensity exists in fact, based on broad confluence of theory, modeling and observations. R.A. Anthes et al., *Hurricanes and global warming—potential linkages and consequences*, 87 Bulletin of the American Meteorological Society 623-628 (2006) ("Anthes et al."); *see also* T.R. Knutson and R.E. Tuleya, *Impact of CO2-induced warming on simulated hurricane intensity and precipitation: Sensitivity to the choice of climate model and convection parameterization*, 17 Journal of Climate 3477-3495 (2004); K. Trenberth, *Uncertainty in hurricanes and global warming*, 308 Science 1753-1754 (2005). Nonetheless, this assertion remains controversial.[5] Tropical sea-surface temperatures have risen by about 0.6°C since measurements began and about 0.5°C of that increase has occurred since 1970. Anthes et al. at 624. Record sea-surface temperatures (0.9°C above

[5] The debate involves questions about the possible underestimation of the intensity of historic tropical cyclones, thus making more recent storms appear stronger by comparison. In addition, accurate assessments of tropical cyclone intensity, based on satellite data, are relatively recent. Thus, there is a need for additional data to allow formal statistical confirmation of conclusions based on this evidence.

the norm) in the area critical for hurricanes contributed to the most active North Atlantic hurricane season on record in 2005; about half of that temperature anomaly can be attributed to global warming. K.E. Trenberth and D.J. Shea, *Atlantic hurricanes and natural variability in 2005*, 33 Geophysical Research Letters L12704, doi:10.1029/2006GL 026894 (2006).

A careful review of global data confirms a trend toward more frequent intense (category 4 and 5) storms over the past 30 years, a trend directly linked to increases in sea-surface temperatures. P.J. Webster, G.J. Holland, J.A. Curry and H.-R. Chang, *Changes in tropical cyclone number, duration, and intensity in a warming environment*, 309 Science 1844-1846 (2005); C.D. Hoyos, P.A. Agudelo, P.J. Webster and J.A. Curry, *Deconvolution of the factors contributing to the increase in global hurricane intensity*, 312 Science 94-97 (2006); K. Emanuel, *Increasing destructiveness of tropical cyclones over the past 30 years*, 436 Nature 686-688 (2005) ("Emanuel").

Even if tropical storms do not change markedly in intensity, rising sea levels, beach and wetland erosion, and storm surges will ensure increased damage along increasingly developed shorelines. *Climate Change Science* at 4; Anthes et al. at 624. Hurricanes are already the costliest natural events in the United States, accounting for a significant fraction of damage, injury and loss of life from natural hazards. Emanuel at 686.

4. *Increased storm damage endangers U.S. coastal communities.*

Large swaths of low-lying coastal lands around the United States are extremely vulnerable to any increase in sea level. As Hurricane Katrina demonstrated, such areas are already vulnerable to erosion, flooding, storm surges, and tsunamis; and poor development planning has placed trillions of dollars

worth of buildings and infrastructure directly in the path of these threats. Further, higher sea levels interact with tides and storms to create more destructive impacts, as extreme high water levels occur with more frequency. Dan Cayan et al., *Projecting Future Sea Level Rise: A Report for California Climate Change Center*, 18 (March 2006) ("Cayan et al."). Approximately 58,000 square kilometers of land along the Atlantic and Gulf of Mexico coasts of the United States lie below 1.5 meters above sea level. Louisiana, Florida, Texas, and North Carolina account for more than 80 percent of these low-lying areas. In fact, North Carolina alone has as much land within one meter of sea level as the Netherlands. J.G. Titus and C. Richman, *Maps of lands vulnerable to sea level rise: Modeled elevations along the US Atlantic and Gulf Coasts*, 18 Climate Research 205-228 (2001).

In California, a 30 cm (12 inch) rise in sea level would shift the 100-year storm surge-induced flood event to once every 10 years. Cayan et al. at 18. Even a small rise in sea level would be accompanied by large amounts of coastal flooding, inundation and storm damage. Along the San Diego coast, model results demonstrate approximately 10 extreme water level events between 2070 and 2100 if there is no increase in sea level. Over the same time period there would be approximately 330 extreme events with a rise in sea level of 20 cm, 2,300 extreme events with a rise of 40 cm, and almost 19,000 events with a rise of 80 cm. *Id.* at 23-29.

For the 85 coastal counties from Massachusetts to Virginia, approximately one thousand square miles of land area lies below 3 feet, which includes about 70 square miles of developed land, 3,000 miles of roads, and about 388,000 people. S.-Y. Wu, R. Najjar and J. Siewert, *Impact of Sea-Level Rise on the Mid- and Upper-Atlantic Coast* (Consortium for Atlantic Regional Assessment, 2005).

5. *Erosion will increase in coastal areas.*

Each year, erosion along U.S. shorelines will claim about 1,500 homes and the property they occupy at a cost of about $530 million annually. The H. John Heinz III Center for Science, Economics and the Environment, *Evaluation of Erosion Hazards*, Report Brief, 2 (2000). According to the Federal Emergency Management Agency, by 2060, coastal erosion will have threatened nearly 87,000 homes in U.S. coastal areas. G.B. Griggs, *Coastal Cliff Erosion in San Diego County* (2002) *at* http://repositories.cdlib.org/cgi/viewcontent.cgi?article=1091&context=csgc (last visited August 29, 2006).

The nature and extent of human development has severely undermined the ability of natural coastal features, such as wetlands and mangrove forests, to survive increasing seas. Under normal circumstances, they can accrete sediment to keep pace with, and retreat in the face of, rising sea levels. However, dams and levees impede the flow and deposition of sediments, a situation played out with devastating consequences in the Mississippi delta in Louisiana. The delta has lost more than 1,000 square miles since 1950, and continues to lose 25-35 square miles per year through the combination of sea-level rise, land subsidence, and erosion. At this pace, more that 630,000 acres of Louisiana wetlands will disappear by 2050. Pew Oceans Commission, *America's Living Oceans: Charting a Course for Sea Change*, 54 (June 2003).

CONCLUSION

For the foregoing reasons, *Amici* respectfully urge the Court to reverse the Court of Appeals and direct that the case be remanded to EPA with instructions for making a proper determination under section 202 of the Clean Air Act.

Respectfully submitted,

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* Counsel wishes to acknowledge Christophe A. G. Tulou of Christophe Tulou Associates for his substantial contributions to this brief.

APPENDIX

APPENDIX

LIST OF *AMICI CURIAE*

American Littoral Society (ALS). Currently comprised of over 6,000 professional and amateur naturalists, ALS seeks to encourage a better scientific and public understanding of the marine environment and provide a unified voice advocating protection of the delicate fabric of life along the shore.

Cetacean Society International (CSI). CSI advocates for laws and treaties that prevent habitat destruction and minimize cetacean killing and captures, while maximizing human activities that neither harm nor harass, but instead enhance public awareness of and concern for cetaceans and the marine environment.

Humane Society of the United States (HSUS). With nearly ten million members and constituents, The HSUS is the nation's largest animal protection organization. The HSUS strives to protect, conserve, and enhance the nation's wildlife and wildlands while also promoting the humane treatment of all animals, including marine life. In particular, The HSUS, together with its international arm, The Humane Society International, has an extensive array of domestic and international programs that focus specifically on concerns facing marine environment and encourages its members to weigh in on these issues by contacting leaders and decision-makers. Additionally, HSUS submits comments on a wide range of issues pertaining to marine mammals and their environment and litigates complex cases to preserve marine life.

International Wildlife Coalition Inc. (IWC). Founded in 1984, the Coalition is dedicated to public education, research, rescue, rehabilitation, litigation, legislation and international treaty negotiations concerning global wildlife and natural habitat protection issues.

Jean-Michel Cousteau. The president of Ocean Futures, Jean-Michel Cousteau has been a voice of concern for oceans in countries across the world for decades. He served as a spokesman on water issues at the United Nations World Summit on Sustainable Development in Johannesburg, at the 3rd World Water Forum in Kyoto, and at the Dialogues on Water for Life and Security in Barcelona.

Marine Conservation Biology Institute (MCBI). Our mission is to advance the science of marine conservation biology and secure protection for ocean ecosystems.

Nantucket Soundkeeper/Alliance to Protect Nantucket Sound (APNS). Our goal is to protect Nantucket Sound in perpetuity through conservation, environmental action, and opposition to inappropriate industrial or commercial development that would threaten or negatively alter the coastal ecosystem.

The Ocean Conservancy. The oldest and largest organization solely dedicated to ocean conservation, we represent 150,000 members on ocean conservation issues. We promote healthy and diverse ocean ecosystems and oppose practices that threaten ocean life and human life.

Ocean Futures Society. Ocean Futures Society, a non-profit marine conservation and education organization, serves as a voice for the ocean by communicating in all media the critical bond between people and the sea and the importance of wise environmental policy.

Oceans Public Trust Initiative (OPTI). OPTI is a project of the Earth Island Institute's International Marine Mammal Project and our mission is to ensure that the public trust interest in ocean and coastal areas is fully protected by state and federal governments.

Provincetown Center for Coastal Studies (PCCS). PCCS conducts scientific research with emphasis on marine

mammals of the western North Atlantic and on the coastal and marine habitats and resources of the Gulf of Maine. Our mission includes promoting stewardship of coastal and marine ecosystems and working on issues of habitat protection, ecosystem management, marine mammal and marine wildlife conservation.

SeaWeb. SeaWeb is a communications-based nonprofit organization dedicated to advancing ocean conservation.

Whale and Dolphin Conservation Society (North America) (WDCS (NA)). WDCS (NA) is a MA incorporated not-for-profit and is part of the WDCS group. Established in 1987, WDCS is the global voice for the protection of whales, dolphins and their environment.

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In the
Supreme Court of the United States

THE COMMONWEALTH OF MASSACHUSETTS, *et al.*,
Petitioners,

v.

U.S. ENVIRONMENTAL PROTECTION AGENCY, *et al.*,
Respondents.

On Writ of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

BRIEF OF *AMICUS CURIAE* WILLIAM H. TAFT, IV IN SUPPORT OF RESPONDENTS

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London Amendments to the Montreal Protocol on Substances that Deplete the Ozone Layer, 30 I.L.M. 537 (1991) 14

S. Treaty Doc. No. 100-10 (1987), 1522 U.N.T.S. 3, 26 I.L.M. 1550 (1987) (entered into force Jan. 1, 1989) . 13

United Nations Framework Convention on Climate Change, 31 I.L.M. 849 (May 9, 1992) 8

Vienna Convention for the Protection of the Ozone Layer, Mar. 22, 1985, 26 I.L.M. 1529 (entered into force Sept. 22, 1988) 13

42 U.S.C. § 7401 21

42 U.S.C. § 7451 (pre-1990) 12

42 U.S.C. § 7453 (pre-1990) 12

42 U.S.C. § 7454 (pre-1990) 12

42 U.S.C. § 7455 (pre-1990) 12

42 U.S.C. § 7456 (pre-1990) 12

42 U.S.C. § 7457 (pre-1990) 12

42 U.S.C. § 7491 22

42 U.S.C. § 7601 22

42 U.S.C. § 7651, *et seq.* 11

42 U.S.C. § 7671 ..... 14, 26

5 U.S.C. § 553 20

Safe, Accountable, Flexible and Efficient Transportation Act: A Legacy for Users, Pub. L. No. 109-59, 119 Stat. 1144 (Aug. 10, 2005) 18

Pub. L. No. 100-204, 101 Stat. 1331 (1987) 7

Pub. L. No. 101-549, 104 Stat. 2399 (1990) 14

Pub. L. No. 105-276 (1998) 9

Pub. L. No. 109-58, 119 Stat. 594 (2005) 18

Pub. L. No. 90-148, 81 Stat. 485 (1967) 25

Pub. L. No. 91-604, 84 Stat. 1679 (1970) 25

43 Fed. Reg. 11,301, Certain Fluorocarbons (Chlorofluorocarbons) in Food, Food Additives, Drug, Animal Food, Animal Drug, Cosmetic, and Medical Device Products as Propellants in Self-Pressurized Containers (Mar. 17, 1978) 13

52 Fed. Reg. 24,663, Revisions to the National Ambient Air Quality Standards For Particulate Matter (July 1, 1987) 26

52 Fed. Reg. 47,489, Protection of Stratospheric Ozone (Dec. 14, 1987) 14

53 Fed. Reg. 30,566, Protection of Stratospheric Ozone (Aug. 12, 1988) 14

62 Fed. Reg. 38,711, National Ambient Air Quality Standards For Particulate Matter (July 18, 1997) 26

Regulation of Fuel and Fuel Additives: Control of Lead Additives in Gasoline, 38 Fed. Reg. 33,734, (Dec. 6, 1973) 24

Regulation of Fuels and Fuel Additives, 38 Fed. Reg. 1254, (Jan. 10, 1973) 24

Other Authorities

Barratt-Brown, Elizabeth P., *Building a Monitoring and Compliance Regime Under the Montreal Protocol*, 16 YALE J. INT'L L. 519 (1991) 13

Congressional Budget Office, Uncertainty in Analyzing Climate Changes:Policy Implications (Jan. 2005) 5

Cook, Steve, *Bush Promotes Administration's Air Policies, Urges Congress to Approve Clean Skies Bill*, 34 Env't Rep. (BNA) 2062 (Sept. 19, 2003) 17

Department of Energy, Energy Information Administration, *What Does the Kyoto Protocol Mean to U.S. Energy Markets and the U.S. Economy?* (Oct. 1998) 4

Garner, Lynn, *Senate Committee Defeats Efforts to Close SUV "Loophole," Boosts Clean Coal Funding*, 36 Env't Rep. (BNA) 1043 (May 20, 2005) 18

Karl, Thomas R. & Trenberth, Kevin E., *Modern Global Climate Change*, 302 SCIENCE 1719 (Dec. 5, 2003) 4

Legislation in the 108th Congress Related to Global Climate Change, available at http://www.pewclimate.org/what_s.being_done/in_the_congress//108th.cfm 16

Miller, Geoffrey P., *The Unitary Executive In a Unified Theory of Constitutional Law: The Problem of Interpretation*, 15 Cardozo L. Rev. 201 (1993) 20

Najor, Pamela, *Bills Reintroduced in Senate, House to Cut U.S. Emissions of Greenhouse Gases by 2010*, 36 Env't Rep. (BNA) 321 (Feb. 18, 2005) 17

Najor, Pamela, *Incentives to Push Technology Added to Bill by McCain, Lieberman on Greenhouse Gases*, 36 Env't Rep. (BNA) 1118 (Jun 3, 2005) 18

Najor, Pamela,
United States Joins Five Other Nations In Effort To Cut Greenhouse Gas Emissions, 36 Env't Rep. (BNA) 1549 (July 29, 2005) 10

Nordhaus, Robert R. & Danish, Kyle W.,
Pew Center on Global Climate Change, *Designing a Mandatory Greenhouse Gas Reduction Program for the U.S.* (2003) 5

Reitze, Jr., Arnold W.,
The Legislative History of U.S. Air Pollution Control, 36 HOUSTON L. REV. 679 (1999) 25

Remarks by President George W. Bush on Climate Change and Clean Air Act at National Oceanic and Atmospheric Administration, Feb. 14, 2002, Daily Env't Rep. (BNA), Feb. 15, 2002, at E-1 17

Remarks of the President George W. Bush on Global Climate Change,
2001 WL 637709 (June 11, 2001) 4, 8

Remarks of the President William J. Clinton at the National Geographic Society, 2 Pub. Papers 1408 (Oct. 22, 1997) 9

U.S. Won't Follow Climate Treaty Provisions, Whitman Says, N.Y. TIMES (Mar. 28, 2001) 19

Senate GOP Signals Death of Clear Skies After Committee Deadlock, XXII ENVTL. POL'Y ALERT (Mar. 16, 2005) 17

Stratospheric Sink for Cholorofluoromethanes: Chlorine Atom Catalyzed Destruction of Ozone, 249 Nature 810 (1974) 12

Text of a Letter from President George W. Bush, Mar. 13, 2001, *available at* http://www.whitehouse.gov /news/releases/2001/03/20010314.html 21

U.N. Environment Program, The Impact of Ozone-Layer Depletion (1992) 12

U.N. Framework Convention on Climate Change: Hearing Before S. Comm. on Foreign Relations, 100th Cong. 2d Sess. 93 (1992) 8

U.S. Dept. of Energy, Energy Information Administration, International Energy Outlook (June 2006) 6

INTERESTS OF AMICUS CURIAE[1]

Amicus William H. Taft, IV, served as legal adviser to the Department of State from 2001 to 2005. From 1989 to 1992, Mr. Taft was the United States permanent representative to the North Atlantic Treaty Organization. From 1984 to 1989, Mr. Taft was the Deputy Secretary of Defense. From 1981 to 1984, Mr. Taft was the General Counsel of the Department of Defense. From 1976 to 1977, Mr. Taft was General Counsel of the Department of Health, Education and Welfare. Mr. Taft has extensive experience and expertise in foreign policy and international law as well as United States administrative law. Mr. Taft has a strong interest in the court's resolution of the legal issues in this case to the extent they bear on the conduct of foreign policy and its consideration in the interpretation of domestic regulatory statutes and the execution of domestic regulatory programs.

Mr. Taft is currently Of Counsel at Fried, Frank, Harris, Shriver & Jackson LLP, an international law firm. He serves on the Executive Council of the American Society of International Law and the Board of

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[1] All parties have consented to the filing of this brief. Pursuant to the Rule 37.6, counsel for *Amicus Curiae* states that this brief was not written in whole or in part by counsel for any party. A monetary contribution to the preparation and submission of this brief was made by non-party, the Automotive Trade Policy Council.

the American Bar Association's Center for Rule of Law Initiatives.

The purpose of this brief is to advise the Court that the Administrator of the Environmental Protection Agency may properly consider the foreign policy interests of the United States in exercising her responsibilities under the Clean Air Act.

SUMMARY OF ARGUMENT

Petitioners conclude that carbon dioxide is an "air pollutant" that, under section 202 of the Clean Air Act, is subject to regulation by the Environmental Protection Agency (EPA). Petitioners overlook the President's and Congress's repeated determinations that, as a matter of U.S. foreign policy, the issue of global climate change must be addressed through a comprehensive, multilateral strategy, not through unilateral, domestic regulation that could cause significant harm to the Nation's economy.

The petitioners and their *amici* have worked for years to enact legislation and to shape foreign policy to control carbon dioxide emissions, but they have repeatedly failed to achieve their goals. Because neither Congress nor the Administration has been willing to grant EPA authority to regulate greenhouse gas emissions, the petitioners now seek to use this Court to achieve their preferred policy objectives, even though their views have been consistently rejected through the democratic process.

In recognizing that, under the Clean Air Act, EPA enjoys no authority to regulate greenhouse gas emissions, the EPA Administrator appropriately considered United States' foreign policy and declined petitioners' request that she impose burdensome domestic regulations on carbon dioxide emissions from new motor vehicles. The decision was appropriate and should be upheld.

ARGUMENT

I. The United States Is Working Within An International Framework To Develop A Comprehensive, Multilateral Approach To Global Climate Change.

The President and Congress have insisted for more than a decade that the phenomenon of global climate change must be addressed through coordinated, multilateral strategies that do not inflict undue harms on the U.S. economy. EPA correctly determined that "climate change raises important foreign policy issues," and it appropriately recognized that imposing unilateral, mandatory restrictions on one sector of the economy could "weaken U.S. efforts to persuade key developing countries to reduce" their own greenhouse gas emissions.[2]

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[2] Pet. App. at A-86.

A. The Issue Of Global Climate Change Raises Important Foreign Policy Concerns.

Because carbon dioxide and other greenhouse gases disperse throughout the atmosphere, their effect on climate is a global issue that does not lend itself to unilateral, piecemeal approaches.[3] In the conduct of its foreign policy, the United States has rejected go-it-alone strategies and focused instead on promoting voluntary and coordinated multilateral commitments. As President Bush has emphasized, "[c]limate change, with its potential to impact every corner of the world, is an issue that must be addressed by the world."[4]

This country's foreign policy leaders have likewise recognized that mandatory restrictions on United States' greenhouse gas emissions would impose potentially enormous burdens on the nation's economy, as well as its citizens and businesses.[5]

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[3] *See* Thomas R. Karl & Kevin E. Trenberth, *Modern Global Climate Change*, 302 SCIENCE 1719 (Dec. 5, 2003) (greenhouse gases, once emitted, are "typically halfway around the world a week later, making climate change a truly global issue").

[4] Remarks of the President George W. Bush on Global Climate Change, 2001 WL 637709, at 1 (June 11, 2001).

[5] *Id.* at 3 (complying with Kyoto's "mandates would have a negative economic impact, with layoffs of workers and price increases for consumers"); *see also* Department of Energy, Energy Information Administration, *What Does the Kyoto Protocol Mean to U.S. Energy Markets and the U.S. Economy?* (Oct. 1998) *available at* http://eia.doe.gov/oiaf/kyoto/kyotobtext.html. (projecting actual losses between $102 and $437 billion in 2010 in order to reduce

Because greenhouse gases mix in the atmosphere, however, such restrictions might have no meaningful effect on greenhouse gas concentrations in the atmosphere absent efforts by developing countries to undertake similar emissions reductions.[6]

In fact, any program seeking to control greenhouse gases that does not involve China, India, and other key developing nations is unlikely to succeed. Emissions from developing nations will exceed those from industrialized nations by the early 2020s. It is expected that, from 2003 to 2030, almost seventy-five percent of the increase in total carbon dioxide emissions will come from developing countries,[7] with most of the growth contributed by China and India. Two years ago, China became the world's second-largest petroleum consumer, and is projected to have 150 million private motor vehicles by 2015, a 150-fold increase over 2002 levels. China's economy is growing at twice the rate of the United States' economy, and its population is increasing by 10.4 million people a year. The increase

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greenhouse gas emissions to levels proposed by the Kyoto Protocol).

[6] Robert R. Nordhaus & Kyle W. Danish, Pew Center on Global Climate Change, *Designing a Mandatory Greenhouse Gas Reduction Program for the U.S.*, at 2 (2003) ("a ton of greenhouse gases emitted in the United States has the same impact as a ton emitted in Malaysia").

[7] Congressional Budget Office, Uncertainty in Analyzing Climate Changes: Policy Implications 1 (Jan. 2005).

in emissions from China alone will exceed the increase of emissions from all developed nations (OECD nations) and Russia combined.[8]

Petitioners have suggested, optimistically, that if the United States were to move aggressively to reduce greenhouse gas emissions from new motor vehicles, other countries might make similar emissions reductions.[9] But there are no assurances that this would occur. Although western European nations may well continue to work for controls, China, India, and other developing countries are unlikely to implement emissions reductions absent binding multilateral agreements. In any event, these issues require judgments that the political branches of the federal government and, particularly, the Executive Branch in the conduct of foreign policy have the responsibility to make.

B. The United States' Foreign Policy Favors Comprehensive, Multilateral Strategies For Addressing Global Climate Change.

Given the potential costs of controlling greenhouse gas emissions, the United States has sought to address

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[8] U.S. Dept. of Energy, Energy Information Administration, International Energy Outlook 92 (June 2006).

[9] *See* JA 239 (arguing that if "the U.S. takes steps to reduce motor vehicle emissions, other countries are very likely to take similar actions regarding their own motor vehicles using technology developed in response to the U.S. program").

the issue of climate change through comprehensive, multilateral strategies, while rejecting mandatory, unilateral controls that could cause undue harm to the U.S. economy.

1. The President and Congress Have Rejected Mandatory Emissions Reductions That Would Unduly Harm The United States' Economy.

Two decades ago, Congress enacted the Global Climate Protection Act of 1987, mandating an international approach to global climate change.[10] The Act designated the Department of State as the lead executive agency responsible for United States' foreign policy regarding climate change. At the same time, Congress tasked EPA with "developing and *proposing* to Congress a coordinated national policy on global climate change."[11] The responsibilities assigned to the two agencies are clearly related, and Congress understood that a "coordinated national policy on global climate change" would have domestic and international aspects.

Five years later, the United Nations Framework Convention on Climate Change (UNFCCC) became the first international agreement to address the issue of global climate change. Seeking to encourage a coordinated international response, the UNFCCC

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[10] Pub. L. No. 100-204, Part XI, § 1103, 101 Stat. 1331 (1987).

[11] *Id.*

makes clear that "the global nature of climate change calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response." Under the UNFCCC, participating nations agreed to work together to negotiate future binding commitments through which the international community might reduce worldwide greenhouse gas emissions.[12]

The Senate approved the UNFCCC in 1992,[13] and since that time, the United States has remained actively involved in the multilateral framework established by the UNFCCC.[14] Negotiations under the UNFCCC resulted in the Kyoto Protocol in late 1997. While the Administration was negotiating the Kyoto Protocol, however, the Senate unanimously adopted the Byrd-Hagel resolution, making clear that the Senate would not ratify any protocol that did not require substantive participation by developing countries or that would damage the United States economy. The

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[12] *See* United Nations Framework Convention on Climate Change, art. 4.1, 4.1(b) & (f), 4.2, 31 I.L.M. 849, 855-56 (May 9, 1992).

[13] U.N. Framework Convention on Climate Change: Hearing Before S. Comm. on Foreign Relations, 102nd Cong. 2d Sess. 93 (1992).

[14] Remarks by the President on Global Climate Change, 2001 WL 637709, at 1 (June 11, 2001) (committing the United States "to work within the United Nations framework and elsewhere to develop with our friends and allies and nations throughout the world an effective and science-based response to the issue of global warming").

later Knollenberg amendments to the FY 1999 and 2000 VA-HUD and Independent Agency Appropriations Acts likewise bar EPA from implementing the Kyoto Protocol.[15]

Given Congress's strong objections to the Kyoto Protocol, President Clinton did not submit it to the Senate for its advice and consent to ratification. Instead, he reassured Congress that, although the "industrial world must lead, ... developing countries also must be engaged."[16] President Clinton made clear that, as a matter of policy, the United States would "not assume binding obligations unless key developing nations agree to participate meaningfully in the effort."[17]

The United States is now pursuing policies that encourage voluntary, multilateral efforts to reduce greenhouse gas emissions.[18] Against this foreign policy

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[15] Pub. L. No. 105-276, 232 (1998).

[16] Remarks of the President William J. Clinton at the National Geographic Society, 2 Pub. Papers 1408, 1410 (Oct. 22, 1997).

[17] *Id.*

[18] *See* M. Albright Brief at 15 n.14. An example of the existing U.S. approach is the Asia-Pacific Partnership on Clean Development and Climate, which on July 28, 2005, announced it would seek "to develop, deploy, and transfer cleaner, more efficient technologies and to meet national pollution reduction, energy security, and climate change concerns, consistent with the U.N. Framework Convention on Climate Change." Pamela Najor, *United States Joins*

backdrop, EPA correctly noted that, in light of "the large populations and growing economies of some developing countries, ... [a]ny potential benefit of EPA regulation could be lost to the extent other nations ... let their emissions significantly increase."[19]

2. A Multilateral Approach To Climate Change Is Consistent With The United States' Approach To Other Issues Affecting The Global Environment.

The United States' multilateral approach to the issue of global climate change is by no means unprecedented. For nearly a century this Nation has handled global energy and environmental problems as a matter of international diplomacy.

When dealing with trans-boundary disputes with our close neighbors to the North and South, for example, the United States has traditionally relied on treaties, compacts, and other bilateral arrangements. Such arrangements include the International Joint Commission (IJC) under the U.S.-Canada Boundary Waters Treaty of 1909, and the International Boundary and Water Commission (IBWC) operating under the U.S.-Mexico Agreement on Cooperation for the Protection and Improvement of the Environment in the Border Area. In 1991, Canada and the United States

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Five Other Nations In Effort To Cut Greenhouse Gas Emissions, 36 Env't Rep. (BNA) 1549 (July 29, 2005).

[19] Pet. App. at A-86.

entered into the Canada-United States Agreement on Air Quality.[20]

To the extent that these trans-boundary issues need to be addressed domestically, Congress has enacted specific legislation giving EPA authority to regulate. In 1990, for example, Congress acted to reduce the transport of sulfur and nitrogen oxides in subchapter IV-A of the Clean Air Act, after finding "the problem of acid desposition is of national and international significance."[21] This program is primarily aimed at improving domestic air quality, but it also reduces emissions to Canada.

Glossing over the United States' history of addressing global energy and environmental issues as a matter of foreign diplomacy, petitioners and their *amici* contend that the regulatory program for stratospheric ozone shows that international problems can be effectively handled with programs based, at least initially, on domestic law.[22] But petitioners fundamentally misunderstand how the stratospheric ozone program developed.

Stratospheric ozone depletion began to be recognized by the scientific community in the 1970s, after the Nobel Prize in Chemistry was awarded to three scientists who helped identify the threat that

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[20] Agreement on Air Quality, Can.-U.S., 30 I.L.M. 676 (1991).

[21] 42 U.S.C. § 7651 *et seq.*

[22] *See, e.g.*, M. Albright Brief at 11.

human activities posed to the ozone layer.[23] Three years later, in 1977, Congress took specific legislative action by creating a Part B-Ozone Protection program as part of the Clean Air Act's Subchapter I.[24] In enacting this new statutory scheme, Congress recognized the potential threat of ozone reductions in the stratosphere[25] and the need for "possible future regulatory action."[26] The law provided for studies, research and monitoring, and reports to Congress.[27] It also gave the President authority to undertake international agreements through the Secretary of State,[28] and delegated express authority for EPA to promulgate regulations controlling substances reasonably anticipated to affect ozone in the stratosphere.[29]

While EPA finalized regulations under the Toxics Substances Control Act (TSCA) that banned the use of chlorofluorocarbon (CFC) propellants in nonessential aerosol sprays in 1978, it took no comprehensive steps

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[23] *Stratospheric Sink for Cholorofluoromethanes: Chlorine Atom Catalyzed Destruction of Ozone*, 249 Nature 810 (1974).

[24] U.N. Environment Program, The Impact of Ozone-Layer Depletion 13 (1992).

[25] 42 U.S.C. § 7451 (pre-1990).

[26] 42 U.S.C. § 7451(a)(4) (pre-1990).

[27] 42 U.S.C. §§ 7453, 7454, & 7455 (pre-1990).

[28] 42 U.S.C. § 7456 (pre-1990).

[29] 42 U.S.C. § 7457 (pre-1990).

to address this global problem.[30] Around the same time, the United Nations formed a Coordinating Committee on the Ozone Layer.[31] But no meaningful actions occurred until 1984 when the United States began pushing for coordinated, global action.

One year later, the international community adopted the Vienna Convention For Protection of the Ozone Layer, which established a multilateral framework for addressing the issue of stratospheric ozone depletion.[32] Then, in September 1987, the United States and twenty-three other nations signed the Montreal Protocol on Substances that Deplete the Ozone Layer, agreeing to impose controls on emissions of ozone-depleting substances.[33] To comply with the Montreal Protocol, EPA promulgated regulations on December 14, 1987, and further regulations on August

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[30] Certain Fluorocarbons (Chlorofluorocarbons) in Food, Food Additives, Drug, Animal Food, Animal Drug, Cosmetic, and Medical Device Products as Propellants in Self-Pressurized Containers, 43 Fed. Reg. 11,301, Certain Fluorocarbons (Chlorofluorocarbons) in Food, Food Additives, Drug, Animal Food, Animal Drug, Cosmetic, and Medical Device Products as Propellants in Self-Pressurized Containers (Mar. 17, 1978).

[31] Elizabeth P. Barratt-Brown, *Building a Monitoring and Compliance Regime Under the Montreal Protocol*, 16 YALE J. INT'L L. 519 (1991).

[32] Vienna Convention for the Protection of the Ozone Layer, Mar. 22, 1985, 26 I.L.M. 1529 (entered into force Sept. 22, 1988).

[33] S. Treaty Doc. No. 100-10, 1522 U.N.T.S. 3, 26 I.L.M. 1550 (1987) (entered into force Jan. 1, 1989).

12, 1988.[34] On May 2, 1989, the First Meeting of the Parties to the Montreal Protocol was held in Helsinki,[35] which led to an agreement to phase out ozone depleting substances. By August 1990, sixty-three countries representing over ninety percent of the consumption of substances controlled by the Protocol had ratified the agreement. Finally, on November 15, 1990, the United States added subchapter VI to the Clean Air Act – Stratospheric Ozone Protection.[36] This subchapter regulated specified ozone-depleting substances in order to satisfy the United States' obligations under the Montreal Protocol.[37]

In short, contrary to the suggestions of petitioners and their *amici*,[38] the successful effort to limit the release of ozone-depleting substances started by building an international program that was then supplemented by granting EPA express authority in the 1990 Amendments to the Clean Air Act.

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[34] Protection of Stratospheric Ozone, 52 Fed. Reg. 47,489 (Dec. 14, 1987); Protection of Stratospheric Ozone, 53 Fed. Reg. 30,566 (Aug. 12, 1988).

[35] Helsinki Declaration on the Protection of the Ozone Layer, May 2, 1989, 28 I.L.M. 1335 (1989); *see also* London Amendments to the Montreal Protocol on Substances that Deplete the Ozone Layer, 30 I.L.M. 537 (1991) (multilateral agreement to accelerate the phase-out of ozone depleting substances).

[36] Pub. L. No. 101-549, Title VI, 104 Stat. 2399 (Nov. 15, 1990).

[37] *See, e.g.*, 42 U.S.C. § 7671n.

[38] *See, e.g.*, Pet. Br. at 27; M. Albright Br. at 11.

Notwithstanding broad scientific consensus on the problems of ozone depletion, EPA did not assume that it already had authority to address the issue under the Clean Air Act. Congress ultimately granted the Agency such authority, but only after the United States had coordinated a global response to the problem of ozone depletion. Moreover, the specific authority and direction established in Title VI of the Clean Air Act was based on and crafted to comply with the obligations the United States had negotiated and undertaken in the Montreal Accord.

C. Congress Has Repeatedly Declined To Impose Mandatory Restrictions On Greenhouse Gas Emissions In The Absence Of An Acceptable International Regime.

Congress has never given EPA specific authority to regulate greenhouse gases. Because the President and Congress have sought to develop an international framework for addressing the issue of global climate change, Congress has consistently declined to adopt proposals requiring or even authorizing mandatory controls on greenhouse gas emissions. The large number of bills that Congress has considered and rejected, including bills that would have specifically delegated authority to EPA to regulate greenhouse gas emissions, provide strong evidence that EPA does not already have authority under the Clean Air Act to regulate greenhouse gas emissions for purposes of addressing global climate change.

In the 105th Congress (1997-1998) seven bills dealing with climate change were introduced; in the 106th Congress (1999-2000) twenty-five bills were introduced. In the 107th Congress (2001-2002) the number increased to eighty, and in the 108th Congress (2003-2004), the number reached nearly one hundred.[39] In the 109th Congress (2005-2006), as of August 2005, fifty-nine bills, resolutions, and amendments addressing global climate change and greenhouse gas emissions had been introduced.[40] Congress's failure to act on these many legislative proposals shows that, although Congress favors voluntary reductions in greenhouse gases and further research, it is not willing to adopt more comprehensive programs that impose mandatory, enforceable requirements, absent a coordinated international response.

For example, President George W. Bush announced his Clear Skies Initiative on February 14, 2002, which included a plan to reduce the greenhouse gases emitted per dollar of gross domestic product eighteen percent by 2012. The bill also proposed reductions in nitrogen oxides, sulfur, and mercury from most fossil-fueled electric power generators, but did not include

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[39] Legislation in the 108th Congress Related to Global Climate Change, available at http://www.pewclimate.org/what_s.being_done/in_the_congress//108th.cfm (last visited Oct. 18, 2006).

[40] *Id.* at 109th.

mandatory controls on carbon dioxide emissions.[41] The proposed legislation was never approved.[42] Similarly, in 2003, Senators Joseph Lieberman and John McCain introduced the well-publicized Climate Stewardship Act, which sought to reduce carbon dioxide emissions to 2000 levels by 2010 through a cap on emissions and an emissions credit trading program.[43] The bill was not approved, and on May 26, 2005, a modified version of the bill, known as the Climate Steward and Innovation Act, was introduced. The bill proposed giving EPA express authority to promulgate regulatory programs that would control greenhouse gas emissions from the

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[41] Remarks by President George W. Bush on Climate Change and Clean Air Act at National Oceanic and Atmospheric Administration, Feb. 14, 2002, Daily Env't Rep. (BNA), Feb. 15, 2002,, at E-1.

[42] *See* Steve Cook, *Bush Promotes Administration's Air Policies, Urges Congress to Approve Clean Skies Bill*, 34 Env't Rep. (BNA) 2062 (Sept. 19, 2003); *Senate GOP Signals Death of Clear Skies After Committee Deadlock*, XXII ENVTL POL'Y ALERT (Inside EPA) 6:10 (Mar. 16, 2005).

[43] A companion bill was introduced in the House by Representatives Wayne Gilchrist (R-Md.) and John Oliver (D-Mass.). *See* Pamela Najor, *Bills Reintroduced in Senate, House to Cut U.S. Emissions of Greenhouse Gases by 2010*, 36 Env't Rep. (BNA) 321 (Feb. 18, 2005).

transportation, industrial, and commercial sectors.[44] It was voted down in a 60 to 38 vote.[45]

Rather than requiring mandatory emissions reductions, Congress has recognized the potential burdens that such mandates might impose on the United States' economy. On May 18, 2005, for example, the Senate Energy and Natural Resources Committee voted *against* increasing fuel-economy standards (which would have decreased carbon dioxide emissions) for SUVs and light trucks in an energy bill.[46] The recent Energy Policy Act of 2005 likewise did not include any provision directly regulating carbon emissions.[47] To the contrary, although the Act provides incentives to encourage the development of nuclear and renewable energy, it provides substantially more

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[44] Pamela Najor, *Incentives to Push Technology Added to Bill by McCain, Lieberman on Greenhouse Gases*, 36 Env't Rep. (BNA) 1118 (Jun 3, 2005).

[45] In the 108th Congress, bills providing for carbon dioxide controls were introduced by Senator Jeffords (S. 366), Senator Carper (S. 843), Congressman Waxman (H.R. 2042) and Congressman Bass (H.R. 3093). Congress took no action on any of these legislative proposals.

[46] Lynn Garner, *Senate Committee Defeats Efforts to Close SUV "Loophole," Boosts Clean Coal Funding*, 36 Env't Rep. (BNA) 1043 (May 20, 2005); *see also* Safe, Accountable, Flexible and Efficient Transportation Act: A Legacy for Users, Pub. L. No. 109-59, 119 Stat. 1144 (2005).

[47] Pub. L. No. 109-58, 119 Stat. 594 (Aug. 8, 2005).

money to expand the use of carbon-based fuels, which are the major source of carbon dioxide emissions.

II. EPA's Administrator Appropriately Considered Foreign Policy Issues When Denying The Petition For Rulemaking.

Petitioners and their amici contend that foreign policy considerations should play no role in EPA's decision not to regulate greenhouse gases under the Clean Air Act. But this narrow view of EPA's regulatory prerogatives cannot be squared with the Clean Air Act or the history of regulation.

A. Congress Has Never Granted EPA Authority To Regulate Greenhouse Gases For Purposes Of Affecting The Global Climate.

Petitioners and their *amici* argue that EPA's Administrator should not have considered United States' foreign policy when denying the petition for rulemaking. They complain that EPA lacks the "expertise necessary to make foreign policy judgments" and that EPA's "judgment was not produced through consultation with expert foreign policy agencies."[48] But the Clean Air Act does not mandate that EPA regulate

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[48] M. Albright Brief at 3. There is no basis in the record for this statement. The Administrator of the EPA played a major role with the Department of State in developing our foreign policy on climate change. *See, e.g.*, U.S. Won't Follow Climate Treaty Provisions, Whitman Says, N.Y. TIMES, A19 (Mar. 28, 2001). Cited in M. Albright Br. at 14, fn. 12.

in a manner that requires it to be oblivious to world events. Nor can this head-in-the-sand approach be reconciled with settled administrative practice.[49]

As part of the unitary Executive, federal agencies are expected to take into account the President's foreign policy objectives. As commentators have recognized, the President's "wide-ranging powers to supervise and guide" the activities of administrative agencies, are intended to assure that those activities are coordinated within the Executive Branch and support national policies, including foreign policy.[50]

Perhaps recognizing that there is nothing inherently wrong with EPA's consideration of the President's foreign policy objectives, petitioners and their *amici* assert that EPA may not use foreign policy to ignore the mandates of the Clean Air Act.[51] But that is not what EPA has done. The EPA Administrator's reference to

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[49] *Cf.* 5 U.S.C. § 553(a)(1) (requiring agencies to engage in notice and comment rulemaking, "except to the extent that there is involved a military or foreign affairs function of the United States"); *see also International Brotherhood of Teamsters v. Pena*, 17 F.3d 1378 (D.C. Cir. 1994) (upholding U.S. Department of Transportation rule exempting Mexican Truckers from complying with U.S. motor vehicle laws under a Memorandum of Understanding with the Mexican government).

[50] Geoffrey P. Miller, *The Unitary Executive In a Unified Theory of Constitutional Law: The Problem of Interpretation*, 15 Cardozo L. Rev. 201, 201 (1993)

[51] *See* M. Albright Brief at 16-19 (arguing that EPA may not use "a foreign policy trump to avoid domestic regulation").

foreign policy concerns merely supports her "judgment" that EPA lacks authority to regulate domestic greenhouse gas emissions, and even if Congress had vested EPA with such authority, exercise of that authority would be inappropriate, and in the absence of any effective international regime would not address any dangers those emissions pose. The Administrator did not claim that foreign policy concerns allowed EPA to ignore the statutory directives of the Clean Air Act; instead, she cited those concerns, among others, in order to ascertain and fulfill those directives.

In any event, the Clean Air Act contains no indication that Congress granted EPA authority to regulate greenhouse gas emissions, much less that Congress intended to cabin the agency's discretion by severely restricting the factors that EPA may consider in determining whether to regulate.[52] Congress's failure to grant EPA express authority in this area is telling because Congress has enacted specific legislation to mandate control of long-distance transport of sulfur and nitrogen compounds,[53] to

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[52] *See* M. Albright Brief at 14 n.11 (quoting Text of a Letter from President George W. Bush, Mar. 13, 2001, *available at* http://www.whitehouse.gov /news/releases/2001/03/20010314.html (recognizing that "carbon dioxide ... is *not* a 'pollutant' under the Clean Air Act") (emphasis added).

[53] Clean Air Act, subchapter IV, 42 U.S.C. §§ 7401-7416.

protect visibility,[54] and to phase-out ozone depleting substances.[55] Each of these ecosystem protection programs has specific and detailed statutory authorization. In contrast to these express statutory authorizations, there is no provision that specifically grants EPA authority to regulate carbon dioxide for purposes of affecting the global climate. To the contrary, section 602(e) provides for the Administrator to determine the global warming potential of ozone depleting substances, but specifically states that the provision is not to be the basis for any additional regulation. Likewise, in section 103(g), Congress authorized basic research to develop non-regulatory strategies and technologies for a list of substances, including carbon dioxide, but took care to make clear that nothing in that subsection should be construed to authorize air pollution control requirements.

It appears, in short, that Congress has consistently supported the Executive Branch's efforts to pursue an international regime for the regulation of greenhouse gas emissions as a predicate to domestic regulation.[56]

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[54] Clean Air Act, 42 U.S.C. §§ 7491-7492.

[55] Clean Air Act, 42 U.S.C. §§ 7601-7617.

[56] *Cf. Youngstown Sheet & Tube Co. v. Sawyer*, 343 U.S. 579, 635 (1952) ("When the President acts pursuant to an express or implied authorization of Congress, his authority is at its maximum, for it includes all that he possesses in his own right plus all that Congress can delegate").

B. Because Carbon Dioxide Emissions Disperse Throughout The Earth's Atmosphere, They Are Materially Different From Most Pollutants Regulated Under The Clean Air Act.

Petitioners and their *amici* provide three examples of pollutants that over a thirty-year period have been incorporated into EPA's regulatory program under the Clean Air Act: lead, benzene, and particulates.[57] But the regulatory history of these compounds does not support the view that carbon dioxide should be regulated under section 202 of the Clean Air Act. All three substances are well known pollutants that directly injure health, have an extensive history of governmental regulation, and can be practically controlled at a local level, where most of the adverse effects occur, without the need for a coordinated international response. The success of efforts to regulate lead, benzene, and particulates in the United States does not depend on whether China, India, and other key developing countries also are regulating those substances.

Lead was known to be toxic since biblical times although it was only in the later part of the twentieth century that lead in the form of tetraethyl lead was shown to be associated with health risks. The U.S. government nonetheless did not regulate lead until 1973, when Congress determined that lead reduction in

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[57] *See* Former EPA Administrators' Brief at 8-19, 23-26.

fuel was needed to protect new emission control technologies that utilized catalytic converters.[58] EPA's regulation was based on section 211(c)(1)(B) of the Clean Air Act, which allows the Administrator to regulate a fuel or fuel additive that "will impair to a significant degree the performance of any emission control device or system ...." Additional, health-based regulations concerning lead were not promulgated until nearly a year later.[59]

Petitioners' *amici* likewise seek to compare carbon dioxide emissions to benzene, characterizing EPA's decision to regulate benzene as an example of EPA making an "endangerment-type finding based on the best available science" and then issuing "implementing regulations to control various benzene sources."[60] But, here again, benzene had been recognized as a dangerous substance since at least 1900.[61] Unlike carbon dioxide, which is non-toxic in the concentrations found in the atmosphere, benzene is a human carcinogen and hazardous to human health.[62] Benzene regulation thus does not have any relevance in trying to

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[58] *Regulation of Fuels and Fuel Additives*, 38 Fed. Reg. 1254 (Jan. 10, 1973).

[59] *Regulation of Fuel and Fuel Additives: Control of Lead Additives in Gasoline*, 38 Fed. Reg. 33,734 (Dec. 6, 1973).

[60] *See* Former EPA Administrators' Brief at 18.

[61] *Id.* at 16.

[62] *Id.* at 15-17.

determine whether EPA has authority to regulate carbon dioxide under the Clean Air Act.

Finally, petitioners' *amici* attempt to compare carbon dioxide emissions to EPA's regulation of particulate matter,[63] but their analysis is again flawed and irrelevant. Particulate matter has been regulated as a well-recognized "air pollutant" in many large cities in the eastern United States since the 1880s.[64] When the federal government entered the air pollution control field, the Air Quality Act of 1967 required States to set ambient air quality standards based on federal criteria,[65] and particulates were among the criteria pollutants to be regulated.[66] The regulation of particulates by the federal government thus predates the creation of EPA in 1970. In 1970, the Clean Air Act as amended gave the Administrator authority to promulgate air quality standards that had previously been exercised by the States.[67] Air quality standards controlling particulate matter were first promulgated by EPA in 1971, and further revisions to EPA's

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[63] *Id.* at 23.

[64] Arnold W. Reitze, Jr., *The Legislative History of U.S. Air Pollution Control*, 36 HOUSTON L. REV. 679, 684 (1999).

[65] *Id.* at 700; *see also* Pub. L. No. 90-148, 81 Stat. 485 (1967).

[66] The author of this brief personally participated in the setting of these standards.

[67] Pub. L. No. 91-604 § 109, 84 Stat. 1679 (Dec. 31, 1970).

regulations were made in 1987 and in 1997.[68] Unlike carbon dioxide, particulate matter has thus been regulated for as long as the federal government has participated in the air pollution control effort.

Since the Clean Air Act amendments of 1970, there has been one program that has successfully addressed a threat to the global ecosystem. The release of ozone-depleting substances threatened the integrity of the earth's protective ozone layer, but the approach used by the legal system to address ozone-layer depletion differs significantly from the treatment of carbon dioxide advocated by petitioners.

The ozone depletion control program resulted in a comprehensive legislative effort dealing with all significant ozone depleting substances including chlorofluorocarbons, halons, carbon tetrachloride, methyl chloroform, and methyl bromide.[69] The program also regulates nearly all significant producers of ozone depleting gases. In contrast, the petitioners seek to regulate only motor vehicles sold in the United States, focusing on carbon dioxide.

Another component of a successful program is the availability of an appropriate technological solution.

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[68] Revisions to the National Ambient Air Quality Standards For Particulate Matter, 52 Fed. Reg. 24,663 (July 1, 1987); National Ambient Air Quality Standards For Particulate Matter, 62 Fed. Reg. 38,711 (July 18, 1997).

[69] Clean Air Act §§ 602 (b), 604(h), 42 U.S.C. §§ 7671a(b), 7671C(e)

The ozone-depletion program was enacted after a technology was developed that could substantially reduce the severity of the problem. In contrast, there is no effective technology for preventing carbon dioxide from being released from combustion. It is not possible with existing technology, or any technology expected to be developed, to achieve carbon dioxide reductions from motor vehicles without increases in fuel economy and/or controls on vehicle miles traveled. Neither of these types of controls are suitable for development or enforcement using the Clean Air Act.

Finally, the success of the ozone depletion program was due to the international cooperative efforts to phase out ozone depleting substances in contrast to the unilateral approach advocated by petitioners for the control of carbon dioxide. The threat to the global ecosystem from greenhouse gases cannot be, and was not intended by Congress to be, addressed with a piecemeal solution implemented by EPA alone. Instead, Congress and the Executive Branch have chosen to address the employment, economic competitiveness, foreign policy, and other important factors involved and to develop a "coordinated national policy."

* * * *

For nearly twenty years, the United States has engaged in extensive diplomatic efforts focused on developing a comprehensive, multilateral strategy for addressing the issue of global climate change. Those efforts as a matter of foreign policy have consistently

rejected mandatory, unilateral, domestic controls that would unduly burden the United States' economy and potentially interfere with attempts to achieve a coordinated international solution to an issue of global concern. Against this backdrop, EPA sensibly determined that Congress had not granted it never-before-recognized authority under the Clean Air Act to regulate greenhouse gases. The Agency appropriately recognized that such regulation could well interfere with the United States' broader foreign policy objectives. Its decision should not be disturbed.

CONCLUSION

The Court of Appeals' decision should be affirmed.

Respectfully submitted,

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Supreme Court of the United States

COMMONWEALTH OF MASSACHUSETTS, *et al.*,

Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, *et al.*,

Respondents.

On Writ of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

BRIEF OF UNION FOR JOBS AND THE ENVIRONMENT AS *AMICUS CURIAE* IN SUPPORT OF RESPONDENTS

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American Ins. Ass'n v. Garamendi,
539 U.S. 396 (2003) 27

Baker v. Carr,
369 U.S. 186 (1962) 28

Barclays Bank PLC v. Franchise Tax Bd.,
512 U.S. 298 (1994) 26

Buttfield v. Stranahan,
192 U.S. 470 (1904) 29, 30

Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc.,
467 U.S. 837 (1984) 24

Connecticut v. Am. Electric Power Co., Inc.
40 F. Supp. 2d 265 (S.D.N.Y. 2005) 28

Connecticut v. Am. Electric Power Co., Inc., 40 F. Supp. 2d 265, *appeal docketed*, No. 05-5104-cv (2d Cir. Sept. 22, 2005) 28

Container Corp. of Am. v. Franchise Tax Bd.,
463 U.S. 159 (1983) 26

Crosby v. Nat'l Foreign Trade Council,
530 U.S. 363 (2000) 26, 27, 28, 29

FDA v. Brown and Williamson Tobacco Corp.,
529 U.S. 120 (2000) 4, 25

New England Legal Found. v. Costle,
666 F.2d 30 (2d Cir. 1981) 6

U.S. v. Clark,
445 U.S. 23 (1980) 30

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U.S. v. Rumley,
345 U.S. 41 (1953) 30

United States v. Curtiss-Wright Exp. Corp.,
299 U.S. 304 (1936) 20, 26

Constitutional Provisions

U.S. Const. art. I, § 8, cls. 1, 3, 11-14 26

U.S. Const. art. II, § 2, cl. 2 ..... 17, 26

Statutes, Legislation and Treaties

138 Cong. Rec. 17,150 (Oct. 7, 1992) 13

1990 Amendments to the Clean Air Act, Pub. L. No. 101-549, § 821(a), 104 Stat. 2399, 2699 (1990) 19

42 U.S.C. § 13,385 19

42 U.S.C. § 15,801 19

42 U.S.C. § 4332(2) 6

Clean Air Act § 103, 42 U.S.C. § 7403 19

Clean Air Act § 202(a)(1), 42 U.S.C. § 7521(a)(1) 3, 5, 24, 25

Department of Transportation Appropriations Act for FY 2001, Pub. L. No. 106-346, §346, 114 Stat. 1356 (2000) 18

District of Columbia Appropriations Act for FY 2000, Pub. L. No. 106-113, 113 Stat. 1501 (1999) 18

Energy Policy Act of 2005, Pub. L. No. 109-58 § 1601, 119 Stat. 594 (2005), codified at 42 U.S.C. § 15,801 19

TABLE OF AUTHORITIES – Continued

Page

Foreign Operations, Export Financing, and Related Programs Appropriations Act for FY 2001, Pub. L. No. 106-429, § 577, 114 Stat. 1900 (2000) 18

Foreign Relations Authorization Act for FY 2003, Pub. L. No. 107-228, §113, 116 Stat. 1350 (2002).....18

H.R. 6, 109th Cong. (2005).....4, 18, 19, 20

H.R. 1646, 106th Cong. § 113 (2002).....18

H.R. 3194, 106th Cong. (1999).....18

H.R. 4475, 106th Cong. § 346 (2000).....18

H.R. 4811, 106th Cong. § 577 (2000).....18

H.R. 5966, 101st Cong. (1990) 18

National Climate Program Act of 1978, 15 U.S.C. § 2901 *et seq* 19

S. 139, 108th Cong. (2003) 18

S. 1224, 101st Cong. (1989) 18

S. Amdt. 826, 109th Cong. (2005).....18

S. Res. 98, 105 Cong. Rec. S8113-8139, 8138 (daily ed. July 25, 1997).....4, 17, 18, 29

UNFCCC Art. 4.2(a) (1992) 15

Regulations

44 Fed. Reg. 1,957 (Jan. 9, 1979) 6

68 Fed. Reg. 52,922, 52,927 (Sept. 8, 2003).....7

TABLE OF AUTHORITIES – Continued

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Other Authorities

Asia-Pacific Partnership on Clean Development and Climate, U.S. Dept. of State, Work Plan for the Asia-Pacific Partnership on Clean Development and Climate (Jan. 12, 2006) 15

Energy Information Administration, U.S. Dept. of Energy, *Impacts of the Kyoto Protocol on U.S. Energy Markets and Economic Activity* (October 1998) 1, 2

Energy Information Administration, U.S. Dept. of Energy, *Annual Energy Review 2004* (Aug. 2005)..10, 11

Energy Information Administration, U.S. Dept. of Energy, *International Energy Outlook 2006* (June 2006) 8

Energy Information Administration, U.S. Dept. of Energy, *What Does the Kyoto Protocol Mean to U.S. Energy Markets and the U.S. Economy?* (Oct. 1998) 12

EPA, Climate Leaders: Partners Web Page, http://www.epa.gov/stateply/partners/index.html (last visited Oct. 23, 2006) 16

EPA, GHG Reduction Goal Achievers, http://www.epa.gov/climateleaders/partners/goalachievers.html (last visited Oct. 23, 2006) 16

EPA, Order 1110.2 at 4(d) (Dec. 4, 1970) 22

EPA, Reorganization Plan No. 3 of 1970 (July 9, 1970) 21

Excerpts of Remarks Before the Senate Committee on Foreign Relations (Feb. 11, 1998).....10

TABLE OF AUTHORITIES – Continued

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John R. Justus & Susan R. Fletcher, Congressional Research Service, Resources, Science, and Industry Division, Global Climate Change, CRS IB89005, at 7 (Sept. 7, 2005) 13

Judith E. Ayres, Assistant Administrator, OIA, EPA, Statement before the Senate Committee on Environment and Public Works (July 25, 2001) 22

Letter from Madeleine K. Albright, Secretary of State, U.S. Dept. of State, Environmental Diplomacy: The Environment and U.S. Foreign Policy, http://www.state.gov/www/global/oes/earth.html (last visited Oct. 23, 2006) 5

Letter from President George W. Bush to U.S. Senators (Mar. 13, 2001) 14

Madeleine K. Albright, Secretary of State, U.S. Dept. of State, Opening Remarks at the Asian Post Ministerial Conference 10+1 Meeting (July 2000) 7

Madeleine K. Albright, Secretary of State, U.S. Dept. of State, Statement Before the International Relations Committee (Feb. 12, 1998), http://www.fas.org/asmp/resources/govern/fy99albright.html 5

Office of Management and Budget, *Federal Climate Change Expenditures Report to Congress*, at 3 (March 2005) 11

Organization for Economic Co-Operation and Development, *World Energy Outlook 2005 Middle East and North Africa Insights*, 92 (2005) 8

TABLE OF AUTHORITIES – Continued

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Pew Center on Global Climate Change, *Climate Change Activities in the United States* (2004) 11

President's Remarks at the National Geographic Society, 2 Pub. Papers 1408 (Oct. 22, 1997) 14

President's Statement on Signing the Instrument of Ratification for the UNFCCC, 2 Pub. Papers 1818 (Oct. 13, 1992) 13

Press Release, EPA, Companies Set Aggressive Greenhouse Gas Reduction Goals (Oct. 12, 2006), http://yosemite.epa.gov/opa/admpress.nsf/a8f952395381d3968525701c005e65b5/abaf76a31c93d2e685257205006305cb!OpenDocument.....16

Press Release, Institute for Public Policy Research, Two Thirds of the EU Countries Set to Miss Kyoto Commitments (Dec. 27, 2005), http://www.ippr.org.uk/pressreleases/?id=1863 12

Remarks to the American Bar Association Conference (July 20, 2000).....10

Standard and Poors DRI, *The Impact of Meeting the Kyoto Protocol on Energy Markets and the Economy* (July 1998).....2

T. Wigley, *et al.*, *Economic and Environmental Choices in the Stabilization of Atmospheric CO2 Concentrations*, 379 Nature 240 (Jan. 18, 1996) 5, 6, 8

Tenth Session of the COP to the UNFCCC, Buenos Aires, Argentina, Dec. 16, 2004, http://www.state.gov/g/oes/rls/rm/2004/39925.htm and

TABLE OF AUTHORITIES – Continued

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http://www.state.gov/g/oes/rls/rm/2004/39910.htm.....25

Thomas R. Karl & Kevin E. Trenberth, *Modern Global Climate Change*, 302 Science 1719 (Dec. 5, 2003).....5, 7

U.S. Dept. of State, Fact Sheet (June 9, 1995).....23

U.S. Dept. of State, U.S. Climate Change Policy (Nov. 19, 2004).....15

UNFCCC, COP, *Provisional Agenda and Annotations*, 2 n.2, U.N. Doc FCCC/CP/2004/1 (Sept. 15, 2004), http://unfccc.int/resource/docs/cop10/01.pdf.....9

UNFCCC, *Issues in the Negotiation Process - Second Review of Adequacy of Article 4.2(A) and (B) of the FCCC* (May 5, 2003), http://unfccc.int/cop7/secreview.html.....8

UNFCCC, May 9, 1992, 1771 U.N.T.S. 107.....9

UNFCCC, Provisional Agenda and Annotations, U.N. Doc. FCCC/CP/2004/1 (Sept. 15, 2004), http://unfccc.int/resource/docs/cop10/01.pdf.....29

UNFCCC, *Report of the Conference of the Parties*, 5, U.N. Doc. FCCC/CP/1995/7/Add.1 (June 6, 1995), http://unfccc.int/cop4/07a01-1.pdf.....9

USDA, The United Nations World Summit on Sustainable Development, http://www.usda.gov/sustainable/background.htm (last visited Oct. 23, 2006).....23

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White House, Addressing Global Climate Change, http://whitehouse.gov/ceq/global-change.html (last visited Oct. 23, 2006) 15

White House, OMB Mission, http://www.whitehouse.gov/omb/organization/role.html (last visited Oct. 23, 2006) 21

INTEREST OF AMICUS CURIAE[1]

Unions for Jobs and the Environment ("UJAE")[2] is an association of ten national and international unions whose 3.2 million members seek to have a voice for union and worker concerns regarding United States ("US") global climate change policy and other environmental issues. UJAE member unions are engaged in various aspects of US energy supply production, utilization and transportation.

Since its formation, UJAE has actively engaged in the global climate change issue due to its implications for jobs and job security relative to other nations' workforces. Imposition of emission reductions on US sources would directly affect energy providers and consumers and their workers. For instance, estimates of the costs of achieving the Kyoto Protocol found that the US total production of goods and services could be reduced between $60 and $94 billion (in 1996 dollars).[3] Even more relevant to UJAE's

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[1] Pursuant to Rule 37.6 of the Rules of this Court, counsel hereby certifies that the brief submitted on behalf of *amicus curiae* UJAE was not authored in whole or in part by counsel for a party, and no person or entity other than the *amicus* and its staff have made a monetary contribution to the preparation of this brief. All parties except the Solicitor General have granted blanket consent for the filing of *amicus curiae* briefs. The letter of consent for filing of this brief from the Solicitor General will be provided.

[2] Formed in 2000, UJAE is a non-profit § 501(c)(4) organization incorporated in Maryland formed of: the Brotherhood of Locomotive Engineers; International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers; International Brotherhood of Electrical Workers; International Brotherhood of Teamsters; Marine Engineers Beneficial Association; Transportation Communications International Union; United Food and Commercial Workers; United Mine Workers of America; United Transportation Union; and, Utility Workers Union of America. *See* http://ujae.org.

[3] Energy Information Administration, U.S. Dept. of Energy, *Impacts of the Kyoto Protocol on U.S. Energy Markets and Economic*

concerns was a 1998 estimate indicating that non-farm related employment could be down by 1.1 million jobs by 2010.[4]

Due to the far reaching implications of US decision-making on carbon reductions, UJAE has invested significant resources in participating in the international and domestic arenas to help shape the US position. UJAE is accredited as a non-governmental organization ("NGO") with formal observer status at the United Nations Framework Convention on Climate Change ("UNFCCC" or "Convention"). As an accredited observer to the UN process, UJAE has witnessed firsthand the refusal of the developing nations to commit to emission limitations or reductions, even as these nations expand their energy production, industrial infrastructure and energy use. Given the uneven commitments among sources around the world in direct competition for market share, UJAE supports a US position that ensures that production at US facilities will not be jeopardized or sacrificed in favor of production by foreign emitting facilities.

Having spent significant resources to help achieve the current open and transparent US foreign policy on carbon dioxide emissions, UJAE is adamantly opposed to the Petitioners' backdoor attempt to precipitate unilateral carbon reductions, such as those found in the Kyoto Protocol, through the use of a rulemaking petition. Accordingly, UJAE supports Respondents' arguments, and therefore files this *amicus curiae* brief. This brief argues that it is appropriate for the US Environmental Protection Agency, as an Executive agency with foreign policy resources, experience, and expertise on international environmental

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Activity, at 143 (Oct. 1998), *available at* http://tonto.eia.doe.gov/FTPROOT/ service/oiaf9803.pdf.

[4] Standard and Poors DRI, *The Impact of Meeting the Kyoto Protocol on Energy Markets and the Economy* (July 1998).

issues, to consider such foreign policy in declining to regulate emissions.

SUMMARY OF THE ARGUMENT

As a formal observer in international climate negotiations, *amicus* is well aware of the multiple approaches suggested for the regulation of global greenhouse gases ("GHGs"). However, as an association of manufacturing labor unions, *amicus* is also aware that should unilateral reductions be implemented without the participation of developing countries, the US's economic base will be severely affected without correlative environmental benefit. Therefore, carbon policy should be considered a matter of foreign policy beyond the scope of Clean Air Act considerations.

EPA properly considered US foreign policy regarding carbon emissions in denying the underlying petition for regulation of certain GHGs emitted by motor vehicles under the Clean Air Act ("CAA"), § 202(a)(1). First, GHG emissions are an international issue. Carbon released on one day essentially becomes evenly distributed around the globe within the week. To stabilize atmospheric GHG concentrations, participation by developing nations—given likely growth patterns in energy-intensive activities—is essential. In the absence of participation by developing nations, the US must take a comprehensive approach to global climate change issues rooted in a domestic policy that is consistent with foreign policy.

Second, because developing nations are reluctant to adopt mandatory carbon reductions, the last three US administrations have adopted a clear foreign policy that preserves domestic options in order to maximize leverage against recalcitrant negotiating partners.

Congress has consistently reinforced this foreign policy. Most notably, the Senate has twice voted—in 1997

and in 2005—to advise that the US should not commit to binding reductions under the Kyoto Protocol, or any similar agreement containing binding reductions, that do not include commitments by developing countries or that would result in harm to the US economy. S. Res. 98, 105 Cong. Rec. S8113-8139, 8138 (daily ed. July 25, 1997); Amdt. 817 to H.R. 6, 109th Cong. (2005). Each successive treatment of GHGs by Congress has steered clear of the type of mandatory reductions sought by Petitioners, thus reinforcing a consistent policy judgment.

Third, EPA is essential to the implementation of US foreign policy on carbon emissions. Like every other Executive Branch agency, and consistent with Constitutional principles of a unitary executive, EPA is charged with implementing the President's policies, including foreign policy, and Congressional directives. EPA has led international environmental delegations and played a supporting role in other key summits and conferences—all with US foreign policy firmly in mind.

Fourth, any argument to preclude EPA from considering US foreign policy regarding carbon emissions when acting on the petition belies the need for consistent foreign and domestic policies on carbon emissions, and the integral role of EPA in implementing the US foreign policy on carbon emissions. Moreover, EPA's consideration of foreign policy is entitled to *Chevron* deference in the absence of clear Congressional intent, particularly where it seems inconceivable that Congress intended to delegate a policy decision of such economic and political magnitude to EPA under its Section 202(a)(1) authority. *See FDA v. Brown and Williamson Tobacco Corp.*, 529 U.S. 120 (2000).

Accordingly, if Petitioners' appeal here succeeds in compelling EPA action that would be in direct contradiction of well-established foreign policy, then not only will such domestic policy fail to have the desired environmental effect,

but also the US will have lost valuable leverage necessary to facilitate a truly international response. Therefore, *amicus* respectfully submits that the Court should reject any finding of a non-discretionary obligation on the EPA to regulate GHGs under CAA § 202(a)(1) in light of powerful Constitutional and administrative considerations rooted in definitive US foreign policy.

ARGUMENT

I. CARBON EMISSIONS POSE UNIQUE INTERNATIONAL ENVIRONMENTAL ISSUES THAT REQUIRE DOMESTIC POLICY TO BE CONSISTENT WITH US FOREIGN POLICY.

In the words of former Secretary of State Madeleine K. Albright, "[t]oday environmental issues are part of the mainstream of American foreign policy."[5] No issue demonstrates her point more than carbon dioxide ("CO2") emissions. GHGs, once emitted, are "typically halfway around the world a week later, making climate change a truly global issue." Thomas R. Karl & Kevin E. Trenberth, *Modern Global Climate Change*, 302 Science 1719 (Dec. 5, 2003). Due to the global nature and long atmospheric residence times of GHG emissions, including CO2, states, regions and nations cannot individually effect meaningful change in atmospheric GHG concentrations. *See* T. Wigley,

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[5] Letter from Madeleine K. Albright, Secretary of State, U.S. Dept. of State, Environmental Diplomacy: The Environment and U.S. Foreign Policy, http://www.state.gov/www/global/oes/earth.html (last visited Oct. 23, 2006). Former Secretary Albright also has said, "[W]e have incorporated environmental goals into the mainstream of our foreign policy." Madeleine K. Albright, Secretary of State, U.S. Dept. of State, Statement before the International Relations Committee (Feb. 12, 1998), http://www.fas.org/asmp/resources/govern/fy99albright.html.

et al., *Economic and Environmental Choices in the Stabilization of Atmospheric CO2 Concentrations*, 379 Nature 240 (Jan. 18, 1996).

Carbon knows no boundaries. The conclusion that EPA is prohibited from considering whether its potential domestic regulation of GHGs would impinge on, or conflict with, US foreign policy is simply wrong. First, EPA is the long-standing expert on emissions policy in the Executive Branch. *New England Legal Found. v. Costle*, 666 F.2d 30, 33 (2d Cir. 1981) (noting that EPA is the agency in which "Congress has vested administrative authority" over the "technically complex area of environmental law").

Second, federal agencies have long been expected to be cognizant of, and act consistently with, the foreign policy of the US in regard to environmental issues. For example, the National Environmental Policy Act ("NEPA") states:

> The Congress authorizes and directs that, to the fullest extent possible: . . . (2) all agencies of the Federal Government shall . . . (F) recognize the worldwide and long-range character of environmental problems and, where consistent with the foreign policy of the United States, lend appropriate support to initiatives, resolutions, and programs . . . ."

42 U.S.C. § 4332(2)(F); *see also* 44 Fed. Reg. 1,957 (Jan. 9, 1979) (Sec. 2-4(c) of Executive Order 12114 confirms that federal agencies are not prevented from using additional measures "to further the purpose of the [NEPA] and other environmental laws . . . consistent with the foreign and national security policies of the United States.").

Due to the transnational nature of CO2 emissions, the US domestic and foreign policy regarding GHG emissions must be consistent for either to be effective. As described further below in Sec. I, current US policies are rooted in a

number of scientific, geographic and historical facts and principles.

A. CO2 is Evenly Concentrated in the Atmosphere Around the World.

Unlike most other emissions, which if traced to and abated at the source can result in measurably reduced concentrations in the ambient air over a defined geographic area, GHG emissions from all sources in all nations contribute to an undifferentiated worldwide concentration in the upper atmosphere. *See* 68 Fed. Reg. 52,922, 52,927 (Sept. 8, 2003); *see also* Thomas R. Karl & Kevin E. Trenberth, *Modern Global Climate Change*, 302 Science 1719 (Dec. 5, 2003). Therefore, the potential benefit of GHG emission reductions made in the US can be thwarted when emitters in other nations increase or refuse to reduce their emissions.

B. Participation by Developing Nations is Essential to Meaningful Resolution.

As former Secretary Albright recognized:

> Industrialized countries must take the lead in reducing greenhouse gas emissions. But the problem cannot be brought under control without the participation of all countries.[6]

The developing world is currently undertaking an intensive expansion of energy infrastructure, and escalating transportation, industrial and commercial expansion to meet

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[6] Madeleine K. Albright, Secretary of State, U.S. Dept. of State, Opening Remarks at the Asian Post Ministerial Conference 10+1 Meeting (July 2000), *available at* http://www.aseansec.org/3899.htm.

the demands of growing domestic and international markets.[7] Building the infrastructure of the developing world and then supplying its needs are energy-intensive activities that will cause rapid growth in CO2 emissions.[8]

Developing regions are projected to contribute over 75% of worldwide CO2 emissions increases from 2003 to 2030.[9] By the early 2020s, the developing nations' combined emissions will exceed the developed nations' combined emissions.[10] Therefore, if the declared goal of the international community to stabilize atmospheric GHG concentrations is to be realized, developing nations must also commit to reducing and controlling emissions.[11] Without the cooperation of developing nations, little or no environmental benefit will accrue to the US as a whole, or to any US state or region, due to domestic reductions from US emitters.

Nations have worked within a treaty framework toward the goal of reducing global concentrations of GHGs since 1992. The UNFCCC established a framework for nations to determine how to accomplish the "aim" of stabilizing worldwide atmospheric GHG concentrations. UNFCCC, May 9, 1992, 1771 U.N.T.S. 107.

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[7] Energy Information Administration, U.S. Dept. of Energy, *International Energy Outlook 2006*, 1-5 (June 2006).

[8] *Id.*

[9] *Id.* at 93. According to Table A10, world carbon dioxide emissions are projected to increase by 18,648 million metric tons from 2003 to 2030, with non-OECD regions increasing emissions by 14,302 million metric tons during that period. *Id.*

[10] Organization for Economic Co-Operation and Development, *World Energy Outlook 2005 Middle East and North Africa Insights*, 92 (2005).

[11] *See* T. Wigley, *et al.*, *Economic and Environmental Choices in the Stabilization of Atmospheric CO_2 Concentrations*, 379 Nature 240 (Jan. 18, 1996).

Based on our experience as observers at the UNFCCC Conferences of the Parties ("COPs"), we have learned that developing nations are reluctant to adopt mandatory carbon reductions. This fact necessitates a US foreign policy with respect to carbon emissions that preserves domestic options in order to maximize leverage against recalcitrant negotiating partners.[12] As explained by the Secretariat of the Convention:

> The fundamental issue that divided developed and developing countries was whether the implementation of the Article[13] should be interpreted as opening up a discussion on commitments for [developing] Parties.

UNFCCC, *Issues in the Negotiation Process - Second Review of Adequacy of Article 4.2(A) and (B) of the FCCC* (May 5, 2003), http://unfccc.int/cop7/secreview.html.

With developing nations unwilling to commit to control their emissions, then-Undersecretary of State for Economic, Business and Agricultural Affairs Stuart Eizenstat asserted the position that:

> We will put on a full-court diplomatic press to bring developing nations into a meaningful role in helping solve the global climate

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[12] UNFCCC, COP, *Provisional Agenda and Annotations*, 2 n.2, U.N. Doc FCCC/CP/2004/1 (Sept. 15, 2004), http://unfccc.int/resource/docs/cop10/01.pdf; UNFCCC, *Report of the Conference of the Parties*, 5, U.N. Doc. FCCC/CP/1995/7/Add.1 (June 6, 1995), http://unfccc.int/cop4/07a01-1.pdf. The COP is the supreme body of the Convention and includes all of the states that have ratified or acceded to the Convention, which identifies developed nations as "Annex I" and developing countries as "Annex II."

[13] The "Article" refers to Article 4.2(d) that provides for a second review of the adequacy of Article 4.2(a) and (b), which include the principle reduction commitments of Annex I Parties.

> challenge. We will accept nothing less, nor would we expect the US Senate to do so. As the President has indicated, the United States should not assume binding obligations under the [Kyoto] [P]rotocol until key developing countries meaningfully participate in meeting the challenge of climate change.

Excerpts of Remarks Before the Senate Committee on Foreign Relations (Feb. 11, 1998).

In 2000, then-Under Secretary of State for Global Affairs Frank Loy, again made clear that:

> Acting alone. . . developed countries cannot stabilize global greenhouse gas concentrations. From a scientific standpoint, meaningful participation by key developing countries is a necessity. Several large developing countries will soon become the world's leading emitters.

Remarks to the American Bar Association Conference (July 20, 2000).

C. CO2 Reductions Will Require Reduced Energy Use And Productivity in the US.

At present, there are no economically feasible or commercially viable technologies to reduce CO2 emissions from fossil fuel-burning stationary sources.[14] According to the US Department of Energy, the US presently depends on fossil fuels for 85% of its energy supply. *See* Energy Information Administration, U.S. Dept. of Energy, *Annual*

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[14] Parties may disagree on the economic feasibility of CO2 reductions, but what is incontestable is that the issue raises national energy, security and foreign relations matters.

Energy Review 2004 (Aug. 2005), at 37. The federal government has been engaged for years in developing technologies to increase energy efficiency and increasing the supply of fuel sources with lower carbon content such as natural gas, and has taken other actions to reduce the nation's dependence on fossil fuels and thereby decrease CO2 emissions. *See generally*, Pew Center on Global Climate Change, *Climate Change Activities in the United States* (2004) (summarizing federal policies on fuel efficiency and renewable energy). In fiscal year 2005, Congress provided $5.2 billion in budget authority and tax incentives related to climate change, including programs to increase energy efficiency, renewable energy and alternative energy sources. Office of Management and Budget, *Federal Climate Change Expenditures Report to Congress*, at 3 (March 2005). For fiscal year 2006, the President's budget proposed expenditures of $5.5 billion for climate change activities. *Id.*

With decades of sizable federal and private-sector investment in developing mechanisms—such as greater fuel efficiency, lower-carbon fuels, and renewable energy—to provide economically feasible alternatives to fossil fuel combustion, only 6% of the nation's energy is derived from renewable or alternative sources. Energy Information Administration, U.S. Dept. of Energy, *Annual Energy Review 2004* (Aug. 2005), at 7. Until these mechanisms are developed into more reliable providers of greater amounts of energy, they are not viable alternatives to most energy-dependent sectors of the economy. Ultimately, reducing the amount of fuel burned——and therefore energy produced—is the only available option for most US sources to reduce CO2 emissions.[15]

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[15] This explains why the actual losses to gross domestic product were projected to be between $102 billion and $437 billion in 2010 for reducing greenhouse gas emissions to levels proposed by the Kyoto

Worldwide emissions data also demonstrate that the challenge to reduce emissions while allowing for economic growth is shared worldwide. For example, despite mandatory reductions required of all EU members, only two of 15 member States (the United Kingdom and Sweden) are on track to meet their Kyoto emission reductions. Press Release, Institute for Public Policy Research, Two Thirds of the EU Countries Set to Miss Kyoto Commitments (Dec. 27, 2005), http://www.ippr.org.uk/pressreleases/?id=1863 (citing and reproducing data from the European Environment Agency).

II. THE US HAS A DEFINITIVE FOREIGN POLICY REGARDING CARBON EMISSIONS ESTABLISHED BY THE PRESIDENT AND SUPPORTED BY THE US SENATE.

For over a decade and multiple administrations, the President, Congress and the federal agencies have set forth—and adhered to—a definitive, established US foreign policy regarding GHG emissions. The US foreign policy has been to participate among nations within the UNFCCC, while raising two core concerns: preserving the health of the US economy and insisting on developing nation commitments.

The US has calibrated its foreign policy to best account for the complexities of the multinational climate change issue. The Executive Branch has positioned the US vis-à-vis other nations of the world to preserve US negotiating power while continuing to seek effective, balanced approaches to the environmental concerns of global climate change.

Protocol (i.e., 7% below 1990 emissions during 2008-2012). Energy Information Administration, U.S. Dept. of Energy, *What Does the Kyoto Protocol Mean to U.S. Energy Markets and the U.S. Economy?* (Oct. 1998).

In 1992, the US signed the UNFCCC, joining 153 other nations in agreeing to work toward the goal of stabilizing worldwide GHG concentrations. The Senate ratified the UNFCCC, committing the US to contribute to achieving that goal. 138 Cong. Rec. 17,150, 17,156 (Oct. 7, 1992). Many developing nations also signed the Convention, yet from the outset, the extent of their obligation to achieve the UNFCCC goals has been unsettled. Developing nations understood that existing technology would not permit them to expand their economies and reduce their energy consumption and GHG emissions, and they have not committed to emission reductions.[16] *See* John R. Justus & Susan R. Fletcher, Congressional Research Service, Resources, Science, and Industry Division, Global Climate Change, CRS IB89005, at 7 (Sept. 7, 2005).

A. The President, as Leader of the Executive Branch, Provided Clear Direction Regarding US Foreign Policy on Carbon Emissions.

In 1992, when signing the UNFCCC Ratification Instrument, President George H.W. Bush signaled his concern with the economic issues raised by committing to the Convention goals: "the United States will continue to lead the world in taking economically sensible actions to reduce the threat of climate change." President's Statement

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[16] Energy consumption and CO2 emissions are related in direct proportion because CO2 is an inescapable natural byproduct of fossil fuel combustion. Absent sequestration of the CO2 emissions, to reduce CO2 emissions, one must reduce fossil fuel consumption, either by decreasing the amount of energy combusted or increasing the efficiency with which energy is utilized. Simply put, to reduce CO2 emissions, one must reduce outputs and productivity. Unlike other emissions, which generally can be controlled by the addition of emission control devices, CO2 emissions reflect the amount of fossil fuel utilized to produce energy.

on Signing the Instrument of Ratification for the UNFCCC, 2 Pub. Papers 1818 (Oct. 13, 1992).

In 1997, President Clinton signed the Kyoto Protocol. However, the President highlighted the US's concern with the lack of developing nation commitments and made clear the position that:

> The United States will not assume binding obligations unless key developing nations meaningfully participate in this effort. . . . If the entire industrialized world reduces emissions over the next several decades but emissions from the developing world continue to grow at their current pace, concentrations of greenhouse gases in the atmosphere will continue to climb.

President's Remarks at the National Geographic Society, 2 Pub. Papers 1408, 1410 (Oct. 22, 1997). In the end, President Clinton did not seek Senate ratification of the binding emissions reductions of the Kyoto Protocol.

In 2001, President George W. Bush reaffirmed that the US would continue that same foreign policy:

> I oppose the Kyoto Protocol because it exempts 80 percent of the world, including major population centers such as China and India, from compliance, and would cause serious harm to the U.S. economy.

Letter from President George W. Bush to U.S. Senators (Mar. 13, 2001).

The US has used its bargaining power to positive effect internationally. The US has concluded binational agreements to work toward UNFCCC goals with nineteen nations and the European Union, which account for 70% of

global GHG emissions. U.S. Dept. of State, U.S. Climate Change Policy (Nov. 19, 2004); *See* White House, Addressing Global Climate Change, http://whitehouse.gov/ceq/global-change.html (last visited Oct. 23, 2006). Even with the continued intransigence of developing nations to commit to emission limits, three major developing nations (China, India and South Korea) have joined a US-led Asia-Pacific Partnership to develop emission reduction strategies through appropriate transfer of technology. *See* The Asia-Pacific Partnership on Clean Development and Climate, U.S. Dept. of State, Work Plan for the Asia-Pacific Partnership on Clean Development and Climate (Jan. 12, 2006).

Consistent with its foreign policy positioning, the US is making progress in reducing domestic source emissions through federally-encouraged nonregulatory approaches. The Executive Branch is working toward a goal to reduce the rate of domestic emissions by 18% by 2012 and is seeking voluntary commitments by US GHG emitters to reduce emissions to meet the goal.[17] *See* White House, Addressing Global Climate Change, http://whitehouse.gov/ceq/global-change.html (last visited Oct. 23, 2006). The largest public corporate greenhouse gas goal-setting program, the EPA's Climate Leaders partnership, represents a broad range of

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[17] Under the UNFCCC, ratified by the Senate, developed nations committed to limit GHG emissions while "taking into account. . . the need to maintain strong and sustainable economic growth. . . ." UNFCCC Art. 4.2(a) (1992), at 7, http://unfccc.int/resource/docs/convkp/conveng.pdf; 138 Cong. Rec. 17,150, 17,156 (Oct. 7, 1992). Given these countervailing considerations, the US has set domestic reduction goals that account for economic growth based on emission rates, i.e., emissions per unit of output. The Kyoto Protocol, not ratified by the Senate, calls for actual emissions reductions. Petitioners seek regulation through actual emission reductions, which may not account for growing populations or economies.

industry sectors from manufacturing to retail, small business to multinationals, and more than $1 trillion in US revenues. Press Release, EPA, Companies Set Aggressive Greenhouse Gas Reduction Goals (Oct. 12, 2006), http://yosemite.epa.gov/opa/admpress.nsf/a8f952395381d3968525701c005e65b5/abaf76a31c93d2e685257205006305cb!OpenDocument. Launched in 2002, Climate Leaders is a key strategy for encouraging organizations to help meet President Bush's goal. *Id.*

Currently, one hundred partners participate in the Climate Leaders partnership program, and 59 of the partners have set emission reduction goals, which account for more than eight percent of total US GHG emissions[18] per year. *See* EPA, Climate Leaders: Partners Web Page, http://www.epa.gov/stateply/partners/index.html (last visited Oct. 23, 2006); Press Release, EPA, Companies Set Aggressive Greenhouse Gas Reduction Goals (Oct. 12, 2006), http://yosemite.epa.gov/opa/admpress.nsf/a8f952395381d3968525701c005e65b5/abaf76a31c93d2e685257205006305cb!OpenDocument. The other Climate Leaders partners are in the process of setting reduction goals. In 2005, five major companies reduced their actual GHG emissions by 10-23%.[19] EPA estimates that GHG reductions by Climate Leaders partners will prevent over 10 million metric tons of carbon equivalents a year. EPA, Climate Leaders: Partners Web Page, http://www.epa.gov/stateply/partners/index.html (last visited Oct. 23, 2006).

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[18] GHG reductions are measured in "carbon equivalents," CO2 having been adopted as a uniform standard of measurement for GHG emissions generally.

[19] EPA, GHG Reduction Goal Achievers, http://www.epa.gov/climateleaders/partners/goalachievers.html (last visited Oct. 23, 2006).

Simply put, the President's non-regulatory, market-based approach to domestic GHG emissions reductions is effectively pushing corporations and financial institutions to focus on implementing climate-related strategies and investing in green technology without jeopardizing the President's foreign policy.

B. Congress' Actions Reinforce the President's Foreign Policy on Carbon Emissions.

While the Senate ratified the UNFCCC, every time it has considered whether sources should be required to reduce GHG emissions either through a treaty or domestic legislation, it has voted against taking that step.

Under the treaty clause of the US Constitution, Article II Section 2, the President is granted the power to "make Treaties," "by and with the Advice and Consent of the Senate . . . ." In 1997, the Senate strongly asserted its "Advice" pursuant to Article II, Section 2 of the US Constitution, when it unanimously adopted Senate Resolution 98, S. Res. 98, 105 Cong. Rec. S8113-8139, 8138 (daily ed. July 25, 1997) ("Byrd-Hagel Resolution") (sponsored by Sen. Robert C. Byrd). The Byrd-Hagel Resolution resolved that the President should not commit the US to the Kyoto Protocol binding emission reductions, and stated that the Senate would not approve any agreement on binding reductions in GHGs that did not include commitments by developing countries as well as industrialized countries, or that would result in harm to the US economy.[20]

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[20] Interestingly, the Byrd-Hagel Resolution also required that "any such protocol or other agreement which would require the advice and consent of the Senate to ratification should be accompanied by a detailed explanation of any legislation or regulatory actions that may be

Both Houses of Congress subsequently adopted successive appropriations and authorization bills prohibiting the expenditure of funds for implementation of the Kyoto Protocol. *See, e.g.*, H.R. 3194, 106th Cong. (1999) (enacted as District of Columbia Appropriations Act for FY 2000, Pub. L. No. 106-113, 113 Stat. 1501 (1999)); H.R. 4475, 106th Cong. § 346 (2000) (enacted as Department of Transportation Appropriations Act for FY 2001, Pub. L. No. 106-346, § 346, 114 Stat. 1356 (2000)); H.R. 4811, 106th Cong. § 577 (2000) (enacted as Foreign Operations, Export Financing, and Related Programs Appropriations Act for FY 2001, Pub. L. No. 106-429, § 577, 114 Stat. 1900 (2000)); H.R. 1646, 106th Cong. § 113 (2002) (enacted as Foreign Relations Authorization Act for FY 2003, Pub. L. No. 107-228, §113, 116 Stat. 1350 (2002)).

Mindful of the current efforts to engage the GHG issue on a multilateral level, Congress has consistently rejected domestic legislation mandating GHG reductions. *See, e.g.*, S. 1224, 101st Cong. (1989); H.R. 5966, 101st Cong. (1990). The Senate also voted 43 to 55 against a bill that would have required reductions in 2003. Climate Stewardship Act of 2003, S. 139, 108th Cong. (2003) (co-sponsored by Sens. McCain and Lieberman). Two years later, the Senate voted against required reductions by a wider margin of 38 to 60. Climate Stewardship Act of 2005, S. Amdt. 826, 109th Cong. (2005) (offered as an amendment by Sens. McCain and Lieberman on June 21, 2005 to the Energy Policy Act of 2005, H.R. 6, 109th Cong. (2005)).

In multiple statutory provisions adopted between 1978 and 1990 addressing climate change, Congress has

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required to implement the protocol or other agreement and should also be accompanied by an analysis of the detailed financial costs and other impacts on the economy of the United States which would be incurred by the implementation of the protocol or other agreement." S. Res. 98.

done many things but has never mandated domestic reductions. Congress has consistently funded research and technology development, directed executive agencies to find nonregulatory ways to reduce emissions, and required monitoring of emissions. *See, e.g.*, National Climate Program Act of 1978, 15 U.S.C. § 2901 *et seq.* (establishing national program to study global climate change); Energy Policy Act H.R. 6, § 1605(b), 109th Cong. (2005); 42 U.S.C. § 13,385 (1992) (establishing a voluntary GHG emissions reporting program); uncodified CAA § 821, 1990 Amendments to the Clean Air Act, Pub. L. No. 101-549, § 821(a), 104 Stat. 2399, 2699 (1990) (requiring regulated power producers to monitor CO2 emissions); CAA § 103(g), 42 U.S.C. § 7403 (2000) (directing EPA to conduct research and develop nonregulatory approaches to reduce emissions). Congress has continued supporting this type of legislation. Under the Energy Policy Act of 2005, Congress addressed GHG issues, in part, by establishing a committee to study and integrate GHG intensity reducing technology strategies, and requiring the State Department to report on further integrating into US foreign policy the goal of reducing greenhouse gas intensity in developing countries. Energy Policy Act of 2005, Pub. L. No. 109-58 § 1601, 119 Stat. 594 (2005), codified at 42 U.S.C. § 15,801.

In a recent action, the Senate reaffirmed its concurrence with the President's foreign policy. The Senate voted to include a Sense of the Senate resolution—which was not included in the final legislation—stating the principle that:

> Congress should enact a comprehensive and effective national program of mandatory market-based limits and incentives on greenhouse gases that slow, stop and reverse the growth of such emissions at a rate and in a manner that — (1) will not significantly harm

> the United States economy; and (2) will encourage comparable action by other nations that are major trading partners and key contributors to global emissions.

S. Amdt. 817 to H.R. 6, 109th Cong. (2005) (agreed to by Senate by a vote of 66 to 29 on June 21, 2006); H.R. 6, 109th Cong., § 1612 (agreed to by the Senate on June 28, 2005) (H.R. 6 enacted as Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 1109). This was the first Sense of the Senate resolution on climate change since the Byrd-Hagel Resolution in 1997. As demonstrated by its actions, Congress has deliberately avoided undermining the US international position on carbon emissions.

III. EPA PLAYS AN INTEGRAL ROLE IN US FOREIGN POLICY REGARDING CARBON EMISSIONS.

A. EPA is Part of a Unitary Executive Branch Implementing the President's Policies and Congressional Directives.

This Court has long recognized that the President is the sole organ of foreign policy. *United States v. Curtiss-Wright Exp. Corp.*, 299 U.S. 304, 320-21 (1936). EPA—an Executive Branch agency—is "one in the same" as the President, because it is charged with executing the President's policy, including foreign policy, as well as the directives issued by Congress. Furthermore, the notion that one federal agency should make critical decisions without taking notice of how those decisions affect the operations of another federal agency is inconsistent with basic practices of the Executive Branch.

The level of coordination within the Executive Branch is illustrated by the role of the Office of Management and Budget ("OMB"), which is charged with ensuring that

presidential policies are executed in a uniform manner across all Executive Branch agencies. OMB describes its mission in the following manner:

> OMB's predominant mission is to assist the President in overseeing the preparation of the federal budget and to supervise its administration in Executive Branch agencies. . . . In addition, OMB oversees and coordinates the Administration's procurement, financial management, information, and *regulatory* policies.

See White House, OMB Mission, http://www.whitehouse.gov/omb/organization/role.html (last visited Oct. 23, 2006) (emphasis added). Thus, EPA cannot disregard the President's goals and does not act within a vacuum, but must act in accord with the President's policies and mindful of the positions taken by other federal agencies.

B. In the Unitary Form of Government, EPA Plays a Critical Role in the Formation and Implementation of Environmental Policy – Foreign and Domestic.

Since the inception of EPA, its role in international environmental issues touching on foreign policy has been self-evident. The principal roles and functions of EPA would include the establishment and enforcement of environmental protection standards consistent with national environmental goals, without limiting EPA to domestic policy only. EPA, Reorganization Plan No. 3 of 1970 (July 9, 1970). Furthermore, EPA Order 1110.2, which established the initial organization of EPA, called for the establishment of a Director for International Affairs. The role of this director was to be the principal adviser to EPA's Administrator in regard to international programs and activities of the Agency, coordinate and provide services and

advice on international programs to all of the organizational elements of the Agency, and serve as the Administrator's principal representative with other agencies in regard to international functions of the Agency. EPA, Order 1110.2 at 4(d) (Dec. 4, 1970).

Reinforcing the truth of former Secretary Albright's proclamation that environmental issues are part of today's foreign policy, EPA maintains an Office of International Affairs ("OIA"), which leads EPA's efforts to address global environmental issues. Headed by a Presidentially-appointed and Senate-confirmed Assistant Administrator, OIA's staff is a diverse and highly educated group of professionals with extensive international experience. OIA staff includes individuals with past service in the State Department, United Nations, and other international organizations.

The current Assistant Administrator heading OIA, Judith Ayres, at her confirmation noted that:

> As a nation, we have learned that solving global environmental problems related to the atmosphere, the oceans, and the earth's biological wealth requires concentrated international efforts. For the International Office at EPA, environmental gain is sought in the international arena outside our country's boundaries through the Agency's collaboration with the Congress, other federal agencies, scientists, the financial and business communities, NGOs, and philanthropic leaders.

Judith E. Ayres, Assistant Administrator, OIA, EPA, Statement Before the Senate Committee on Environment and Public Works (July 25, 2001).

C. EPA Has Played a Historic and Substantive Role on Carbon Emissions at the Global Level.

EPA has taken a substantive role in furthering US foreign policy through participation in major international environmental initiatives on global climate change. It was the EPA Administrator who led the US Delegation to the "Earth Summit" in 1992 that resulted in the UNFCCC. *See* USDA, The United Nations World Summit on Sustainable Development, http://www.usda.gov/sustainable/background.htm (last visited Oct. 23, 2006). As noted above, OIA works with UNEP, which serves as the focal point for environmental issues within the United Nations and acts as the Secretariat for many multilateral environmental agreements, including the Montreal Protocol on Substances that Deplete the Ozone Layer and the Basel Convention on the Trans-boundary Movement of Hazardous Waste. EPA's OIA coordinates the agency's activities in connection with UNEP and its Governing Council, the 30-nation body providing oversight and guidance to the organization.

Judith Ayres not only attended as a member of the US Delegation to the Tenth Session of the COP in Buenos Aires, but she also addressed the Convention. Tenth Session of the Conference of the Parties to the UN Framework Convention on Climate Change, Buenos Aires, Argentina, December 16, 2004, http://www.state.gov/g/oes/rls/rm/2004/39925.htm and http://www.state.gov/g/oes/rls/rm/2004/39910.htm.

The United States Initiative on Joint Implementation, created by President Clinton, was co-chaired by EPA. U.S. Dept. of State, Fact Sheet (June 9, 1995). The Initiative on Joint Implementation was described by the State Department as assisting "in the development of *international* criteria for the partnership projects needed to reduce worldwide greenhouse gas emissions." *Id.* (emphasis added).

The Asia-Pacific Partnership on Clean Development and the Climate (the "Asia-Pacific Partnership") is another example where EPA represents the Executive Branch in an international collaboration in effectuating the President's foreign policy regarding global climate change issues. EPA was also a member of the delegation to the Third Meeting of the Bilateral Climate Change Working Group between the US and Mexico held on August 24, 2006, and to the Fourth Meeting under the US/New Zealand Bilateral Climate Change Partnership held on August 29-30, 2006.

IV. EPA SHOULD NOT BE PRECLUDED FROM CONSIDERING US FOREIGN POLICY REGARDING CARBON EMISSIONS WHEN ACTING ON THE SECTION 202 PETITION.

An argument has been advanced in this case that EPA, an executive agency, should not consider foreign policy when interpreting CAA § 202 of the CAA. *See* Brief of *Amicus Curiae* Albright at 2. In the context of global climate change, however, the issues potentially addressed and the policies potentially advanced in deciding upon Petitioners' petition under CAA § 202(a)(1) are inextricably intertwined with the foreign policy of the US. And, as illustrated above, EPA has played a prominent role in the global climate change debate for decades. EPA should not be expected to turn a blind eye to foreign policy obligations clearly articulated by the US federal government.

A. EPA's Consideration of US Foreign Policy on Carbon Emissions is Entitled to *Chevron* Deference.

Courts reviewing agency decisions based on the agency's interpretation of a statute entrusted to its care apply a two-part test. *Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837 (1984). The court first asks whether Congress has spoken directly to the issue. If the

answer is "yes," then the matter is ended and the court gives effect to Congress' intent. *Id.* at 842. However, if Congressional intent is unclear, or if there is no discernable Congressional intent, the court asks whether the agency's interpretation of the statute is a permissible construction of the statute. *Id.* at 843.

Under CAA § 202(a)(1), EPA's "judgment" addresses whether motor vehicles emitting greenhouse gases can "cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare." No policy considerations are expressly laid out in § 202 of the CAA for EPA's deliberation, leaving no discernable Congressional intent for EPA's interpretation. The statute does not address the scope of EPA's deliberations—let alone direct EPA to consider only domestic policy and ignore its knowledge of foreign policy—in addressing petitions filed under § 202, even though Congress and EPA well know the "global" implications of climate change decisions.

Moreover, as noted above, Congress has repeatedly decided to support additional research, collaboration and voluntary reductions in the carbon emissions realm, and rejected legislation that would impose mandatory GHG reductions. EPA's decision on the underlying petition is consistent with these legislative efforts and the caution raised by this Court when regulating in an area that involves unusually significant political issues. *See FDA v. Brown and Williamson Tobacco Corp.*, 529 U.S. 120 (2000) (cautioning that the Court "must be guided . . . by common sense as to the manner in which Congress is likely to delegate a policy decision of such economic and political magnitude to an administrative agency").

B. EPA's Consideration of US Foreign Policy Regarding Carbon Emissions is Consistent with the Unitary Executive Principle.

The power to execute the nation's foreign affairs is expressly vested in the Executive and Legislative Branches. The President enjoys considerable inherent executive power to "make Treaties." U.S. Const. art. II, § 2, cl. 2. As noted above, Congress also has a share in foreign powers related to advice and consent in ratifying treaties. U.S. Const. art. I § 8, cls. 1, 3, 11-14; U.S. Const. art. II, § 2, cl. 2. This Court has historically and recently "acknowledged that the 'nuances' of 'the foreign policy of the United States . . . are much more the province of the Executive Branch and Congress than of this Court." *Crosby v. Nat'l Foreign Trade Council*, 530 U.S. 363, 386 (2000) (quoting *Container Corp. of Am. v. Franchise Tax Bd.*, 463 U.S. 159, 194 (1983), and *Barclays Bank PLC v. Franchise Tax Bd.*, 512 U.S. 298, 327 (1994)).

It is axiomatic that executive agencies like EPA carry out the policies of the President and are obligated to act in a manner that is consistent with the President's foreign policy objectives. Indeed, if the EPA acted in any other manner, it would undermine the President's efforts to craft a unified, comprehensive foreign policy. *See United States v. Curtiss-Wright Exp. Corp.*, 299 U.S. 304, 320-21 (1936) (finding the Executive is "the sole organ of the federal government in the field of international relations").

If Petitioners were to succeed in using their underlying petition to force unilateral reductions in the US, without regard to foreign policy, the US would lose an important source of foreign policy leverage; namely, the ability to insist on commitments by other nations as a precondition for its own GHG reductions. *See Crosby*, 530 U.S. at 376 (finding that forbearance from domestic action constitutes foreign policy because without such forbearance

"the President has less to offer and less economic and diplomatic leverage as a consequence"). Petitioners here seek to use this forum to compel EPA action that directly contradicts existing national policy.[21] Such interference

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[21] In confronting such divergent courses of action in a case involving whether a California state law was preempted by US foreign policy, the Supreme Court concluded:

> The basic fact is that California seeks to use an iron fist where the President has consistently chosen kid gloves. We have heard powerful arguments that the iron fist would work better, and it may be that . . . the iron fist would be the preferable policy. But our thoughts on the efficacy of the one approach versus the other are beside the point, since our business is not to judge the wisdom of the National Government's policy; dissatisfaction should be addressed to the President or, perhaps, Congress. The question relevant to preemption in this case is conflict, and the evidence here is "more than sufficient to demonstrate that the [California insurance law] stands in the way of [the President's] diplomatic objectives."

American Ins. Ass'n v. Garamendi 539 U.S. 396, 427 (2003) (citing *Crosby*, 530 U.S. at 386). While reasonable minds may differ on the appropriate direction of US climate change policy, until and unless the Legislative Branch and the President change course, states and private parties should not be permitted to utilize a rulemaking petition to circumvent America's longstanding foreign policy by asserting that an Executive Branch agency is precluded from considering foreign policy.

In another case concerning state law preemption due to a conflict with foreign policy, Congress had passed a law directing the President to proceed diplomatically in developing a "comprehensive, multilateral strategy to bring democracy to and improve human rights practices and the quality of life in Burma." *Crosby*, 530 U.S. at 369. Massachusetts, one of the Petitioners in the instant case, had adopted its own law forbidding state agencies from contracting with companies tied to Burma. This Court found that the Massachusetts statute obstructed the national foreign policy on various levels. Relevant in *Crosby* was the Court's concern that the state law interfered with the President's ability

to effectuate foreign policy goals through two specific channels of influence: the use of congressionally delegated authority to strategically utilize economic sanctions, and the ability to develop a comprehensive, multilateral strategy among nations. *Crosby*, 530 U.S. at 376.

Most recently and more on point, in another suit brought by Petitioner Massachusetts, various states sought relief from five US emitters of CO2 on the common law theory of nuisance. Judge Preska of the Southern District of New York dismissed the suit on the grounds that the private common law action "presented non-justiciable political questions that are consigned to the political branches." *Connecticut v. Am. Electric Power Co., Inc.*, 40 F. Supp. 2d 265, 274 (S.D.N.Y. 2005). Specifically, the Court held that: "The explicit statements of Congress and the Executive on the issue of global climate change in general and their specific refusal to impose the limits on carbon dioxide emissions Plaintiffs now seek to impose by judicial fiat confirm that making the "initial policy determination[s]" addressing global climate change is an undertaking for the political branches. . . . . Indeed, the questions here "uniquely demand single-voiced statement of the Government's views." *Id.* (quoting *Baker v. Carr*, 369 U.S. 186, 212 (1962)). UJAE filed an amicus curiae brief in Connecticut v. AEP, which supported the dismissal of the complaint as impermissibly interfering with foreign policy, in that action. The case is currently on appeal before Court of Appeals for the Second Circuit; oral argument was held on June 7, 2006. *See Connecticut v. Am. Electric Power Co., Inc.*, 40 F. Supp. 2d 265, *appeal docketed*, No. 05-5104-cv (2d Cir. Sept. 22, 2005). On appeal, UJAE filed an *amicus curiae* brief supporting affirmance of the dismissal.

In the present case, Congress has spoken with no less force and clarity then it did in the matter decided in *Crosby*. Here, Congress has imposed two significant conditions on the adoption of mandatory CO2 reductions by the nation, which are participation of developing countries and measures that will not materially harm the US economy. Those conditions provide the President with a sizeable amount of "coercive power" to implement foreign policy. Because the US is presently the world's largest emitter of GHGs, in the currency of Kyoto, the US has the greatest ability to cajole developing nations into agreeing to emission reductions.

As discussed in Section I.B. above, developing nations have thus far acted in a block to prevent resolution of that fundamental matter. The US retains leverage on this issue only insofar as Kyoto-like emission reductions are not unilaterally imposed on US sources. "[T]he President's maximum power to persuade rests on his capacity to bargain

would come at a particularly sensitive time internationally. UNFCCC parties have not yet resolved the pivotal issues of whether, when and how developing nations will be bound to emissions limitations. UNFCCC, Provisional Agenda and Annotations, U.N. Doc. FCCC/CP/2004/1, p 2, n. 2, U.N. FCCC, Sept. 15, 2004.

Interference with the prosecution of foreign policy undermines the core principle of separation of powers. Such interference should also be avoided as a matter of statutory interpretation, as this Court has long held:

> In examining the statute in order to determine its constitutionality we must be guided by the well-settled rule that every intendment is in favor of its validity. It must be presumed to be constitutional, unless its repugnancy to the Constitution clearly appears.

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for the benefits of access to the entire national economy without exception for enclaves fenced off willy-nilly by inconsistent political tactics." *Crosby*, 530 U.S. at 379-80.

As in *Crosby*, Congress has specifically instructed the President to calibrate our national approach to carbon emissions limitations based upon the ability of the US government to exact corollary concessions from developing nations. The Senate, by unanimous vote, instructed that the Executive "should not be a signatory to any protocol" that would "mandate new commitments to limit or reduce greenhouse gas emissions...unless the protocol or other agreement also mandates new specific scheduled commitments to limit or reduce greenhouse gas emissions for Developing County Parties within the same compliance period." Byrd-Hagel Resolution, S. Res. 98, 105 Cong. Rec. S8113-8139 (daily ed. July 25, 1997). The relief sought by Petitioners contravenes this explicit instruction by Congress to the President by forcing the very sorts of unilateral emission reductions the Congress expected to be held in abeyance until and unless negotiations produce like-kind reductions from the developing world.

Buttfield v. Stranahan, 192 U.S. 470, 492 (1904); *see also U.S. v. Rumley*, 345 U.S. 41 (1953). As a "corollary of the presumption favoring constitutionality, the fact that one among alternative constructions would involve serious constitutional difficulties is reason to reject that interpretation in favor of another." Norman J. Singer, Statutes and Statutory Construction, § 45:11 (6th ed. 2000) (citing *U.S. v. Clark*, 445 U.S. 23 (1980)).

If the Petitioners succeed in their demands for the CAA to be viewed as interposing a non-discretionary duty to regulate GHGs, a constitutional issue (separation of powers) would be presented because the President and Congress have clearly stated that the US should not be forced to regulate GHGs. By contrast, an interpretation that does not cause conflict with US foreign policy—the position taken by Respondent EPA—would be consistent with the Court's holdings on appropriate statutory construction.

CONCLUSION

Amicus has been granted observer status in the ongoing multilateral proceedings regarding the appropriate approach to regulation of global GHGs. *Amicus* is also keenly aware that should such regulations be adopted in a unilateral fashion, the chances are great that American working men and women will be severely and adversely affected. These adverse impacts will be endured without correlative environmental benefit because without effective participation by developing countries, there is little chance that any domestic policy will have the desired environmental effect. Therefore, *amicus* respectfully submits that the Court should reject any finding of a non-discretionary obligation on the EPA to regulate GHGs in light of powerful Constitutional and administrative considerations rooted in a definitive US foreign policy.

Respectfully submitted,

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In The
Supreme Court of the United States

COMMONWEALTH OF MASSACHUSETTS, ET AL.,

Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, ET AL.,

Respondents.

On Writ Of Certiorari To The United States Court Of Appeals For The District Of Columbia Circuit

BRIEF OF THE U.S. CONFERENCE OF MAYORS, NATIONAL ASSOCIATION OF COUNTIES, INTERNATIONAL MUNICIPAL LAWYERS ASSOCIATION, AMERICAN PLANNING ASSOCIATION, THE CITY OF SEATTLE, THE CITY OF ALBUQUERQUE, THE CITY OF BURLINGTON, AND THE CITY AND COUNTY OF SAN FRANCISCO AS *AMICI CURIAE* IN SUPPORT OF PETITIONERS

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Alaska Dep't of Envtl. Conservation v. EPA, 540 U.S. 461 (2004) 9

ASARCO Inc. v. Kadish, 490 U.S. 605 (1989) 27

Lujan v. Defenders of Wildlife, 504 U.S. 555 (1992) .. 25, 27, 28

Rapanos v. United States, 126 S. Ct. 2208 (2006) 6, 10

Simon v. E. Ky. Welfare Rights Org., 426 U.S. 26 (1976) 27

Solid Waste Agency of N. Cook County v. United States Army Corps of Eng'rs, 531 U.S. 159 (2001) 6

STATUTES AND REGULATIONS:

Cal. Code Regs., tit. 13:

§ 1900 8

§ 1961 8

§ 1961.1 8

Clean Air Act, 42 U.S.C § 7401 *et seq.*:

42 U.S.C. § 7521(a)(1) 28

42 U.S.C. § 7543 8

Energy Policy and Conservation Act of 1975, 49 U.S.C. §§ 32902-32919 7

MISCELLANEOUS:

71 Fed. Reg. 17566 (April 6, 2006) 7, 8

TABLE OF AUTHORITIES – Continued

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A.J. MCMICHAEL *ET AL.*, COMPARATIVE QUANTIFICATION OF HEALTH RISKS: GLOBAL AND REGIONAL BURDEN OF DISEASE DUE TO SELECTED MAJOR RISK FACTORS (World Health Organization, Geneva, 2004) 11

A.L. Westerling *et al., Warming and Earlier Spring Increases Western U.S. Forest Wildfire Activity*, SCIENCE EXPRESS RESEARCH ARTICLES, July 6, 2006 16

Amanda Covarrubias, *California Heat Wave Deaths Prompt Health Study*, L.A. TIMES, Aug. 3, 2006 18

Amanda Paulson, *When heat hits, city hall comes to the rescue*, CHRISTIAN SCIENCE MONITOR, Aug. 3, 2006 18

Anthony Ramirez, *Allstate to Pare Home Policies Near Shore*, N.Y. TIMES, Mar. 10, 2006 15

CALIFORNIA CLIMATE CHANGE CENTER, OUR CHANGING CLIMATE: ASSESSING THE RISKS TO CALIFORNIA (2006) (visited Aug. 28, 2006) <http://www.energy.ca.gov/2006publications/CEC-500-2006-077/CEC-500-2006-077.PDF> 15, 19, 22

A Citizen of New York (John Jay), *Address to the People of the State of New York* (Apr. 15, 1787), in 17 DOCUMENTARY HISTORY OF THE RATIFICATION OF THE CONSTITUTION 101 (Merrill Jensen, John P. Kaminski & Gaspare J. Saladino eds., 1976) 9

ELIZABETH KOLBERT, FIELD NOTES FROM A CATASTROPHE (2006) 11

TABLE OF AUTHORITIES – Continued

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Gregory Zimmerman *et al.*, *Climate Change: Modeling a Warmer Rockies and Assessing the Implications*, in 2006 COLORADO COLLEGE STATE OF THE ROCKIES REPORT CARD (Walter Hecox *et al.*, eds., 2006) (visited Aug. 28, 2006) <http://www.coloradocollege.edu/stateoftherockies/06ReportCard/Climate%20Change,%20updated%2005-01-05.pdf> 21

INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2001: IMPACTS, ADAPTATION, AND VULNERABILITY, CONTRIBUTION OF WORKING GROUP II TO THE THIRD ASSESSMENT REPORT (James J. McCarthy *et al.*, eds., 2001) (visited Aug. 28, 2006) <http://www.ipcc.ch/pub/wg2SPMfinal.pdf> 13, 17

INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2001: THE SCIENTIFIC BASIS, CONTRIBUTION OF WORKING GROUP I TO THE THIRD ASSESSMENT REPORT (J.T. Houghton *et al.*, eds., 2001) (visited Aug. 28, 2006) <http://www.grida.no/climate/ipcc_tar/wg1/pdf/WG1_TAR-FRONT.PDF> 13

International Council for Local Environmental Initiatives, Green Power Options, (visited Aug. 28, 2006) <http://www.greenpowergovs.org/> 10

International Council for Local Environmental Initiatives, U.S. Cities for Climate Protection Campaign, Green Fleets, (visited Aug. 28, 2006) <http://www.greenfleets.org/LocalGovernmentExamples.html> 10

J. Alan Pounds *et al.*, *Widespread Amphibian Extinctions from Epidemic Disease Driven by Global Warming*, 439 NATURE 161 (Jan. 12, 2006) 11

TABLE OF AUTHORITIES – Continued

Page

JAMES E. MCCARTHY, CONGRESSIONAL RESEARCH SERVICE, CLEAN AIR ACT: A SUMMARY OF THE ACT AND ITS MAJOR REQUIREMENTS, CRS-5-CRS-7 (2005) 20

Janet Wilson, *Intense Heat Begets Intense Smog*, L.A. Times, Aug. 3, 2006 19

Jennifer Steinhauer, *Clinton Foundation to Work to Reduce Greenhouse Gases*, N.Y. TIMES, Aug. 2, 2006 21

Jonathan Patz *et al.*, *Impact of Regional Climate Change on Human Health*, 438 NATURE 310 (Nov. 17, 2005) 11

Juliet Eilperin, *More Frequent Heat Waves Linked to Global Warming*, WASH. POST, Aug. 4, 2006 17

Kevin E. Trenberth and Dennis J. Shea, *Atlantic hurricanes and natural variability in 2005*, 33 GEOPHYSICAL RESEARCH LETTERS L12704 (2006) 15

Kim McGuire, *Memphis area's air upgraded by EPA Huckabee: County is 'open for business'*, ARK. DEMOCRAT-GAZETTE, Sept. 14, 2004 20

Lisa Irvine, *Update on the Costs and Reimbursement for the October 2003 Cedar Fire* (Mar. 26, 2004) (The City of San Diego Manager's Report No. 04-067) <http://clerkdoc.sannet.gov/RightSite/getcontent/local.pdf?DMW_OBJECTID= 9001451800ae4e0> 16

TABLE OF AUTHORITIES – Continued

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Michael Floyd *et al.*, *Potential Impacts of Climate Change on California's Water Resources*, in PROGRESS ON INCORPORATING CLIMATE CHANGE INTO MANAGEMENT OF CALIFORNIA'S WATER RESOURCES TECHNICAL MEMORANDUM REPORT (California Dept. of Water Resources 2006) (visited Aug. 28, 2006) <http://baydeltaoffice.water.ca.gov/climatechange/DWRClimateChangeJuly06.pdf> 21

Michael T. Uberuaga, *Initial 30-Day Post-Fire Overview* (Dec. 3, 2003) (The City of San Diego Manager's Report No. 03-242) (visited Aug. 28, 2006) <http://clerkdoc.sannet.gov/RightSite/getcontent/local.pdf?DMW_OBJECTID=09001451800ab1e5> 16

NATIONAL ASSESSMENT SYNTHESIS TEAM, CLIMATE CHANGE IMPACTS ON THE UNITED STATES: THE POTENTIAL CONSEQUENCES OF CLIMATE VARIABILITY AND CHANGE, REPORT FOR THE US GLOBAL CHANGE RESEARCH PROGRAM 5 (2001) (visited Aug. 28, 2006) <http://www.usgcrp.gov/usgcrp/Library/nationalassessment/foundation.htm> 12, 14, 18

P.W. Mote, *Trends in snow water equivalent in the Pacific Northwest and their climatic causes*, 30 GEOPHYSICAL RESEARCH LETTERS 1601 (2003) 22

P.W. Mote *et al.*, *Variability and Trends in Mountain Snowpack in Western North America, Proceedings of the 15th Conference on Global Climate Variations and Change* 5.1 (2004) 22

Richard A. Kerr, *News Focus: Three Degrees of Consensus*, 305 SCIENCE 932 (Aug. 13, 2004) 11

TABLE OF AUTHORITIES – Continued

Page

SAN FRANCISCO PUBLIC UTILITIES COMM'N, 2005 SFPUC WATER QUALITY REPORT 4 (2006) (visited Aug. 28, 2006) <http://www.sfwater.org/detail.cfm/MC_ID/13/MSC_ID/166/MTO_ID/299/C_ID/3056> 21

Spencer S. Hsu, *Insurers Retreat from Coasts*, WASH. POST, Apr. 30, 2006 15

Tim Barnett *et al.*, *The Effects of Climate Change on Water Resources in the West: Introduction and Overview*, 62 CLIMATIC CHANGE 1 (2004), (visited Aug. 28, 2006) <http://www.uwyo.edu/enr/enrschool/ENR4900_5900/Barnett%20et%20al.%202004.pdf> ... 20, 21

U.S. DEPARTMENT OF STATE, U.S. CLIMATE ACTION REPORT 2002 (May 2002) (visited Aug. 28, 2006) <http://www.epa.gov/globalwarming/publications/car/index.html> ..... *passim*

U.S. EPA, *Average Annual Excess Weather-Related Mortality for 1993, 2020, and 2050 Climate*, slide (visited Aug. 28, 2006) <http://yosemite.epa.gov/OAR/globalwarming.nsf/content/ResourceCenterPresentationsImpacts.html> 19

U.S. EPA, *Green Book, 8-Hour Ozone, 8-Hour Ozone Nonattainment Area/State/County/Report* (visited Aug. 28, 2006) <http://www.epa.gov/oar/oaqps/greenbk/gnca. html> 19

U.S. Mayors Climate Protection Agreement (visited Aug. 28, 2006) <http://www.ci.seattle.wa.us/mayor/climate/> 1

INTEREST OF THE *AMICI CURIAE*[1]

Local officials are acutely aware of the need to reduce global warming pollutants now. Over the last 18 months, mayors of 275 cities in 42 States, representing more than 48 million Americans, have signed the U.S. Mayors Climate Protection Agreement (*available at* http://www.ci.seattle.wa.us/mayor/climate/). These mayors have agreed to reduce greenhouse gas emissions in their own communities to seven percent below 1990 levels by 2012. Each of the individual municipal *amici* on this brief is a signatory to the Agreement.

Our municipal leaders recognize, however, that they cannot do the job alone. To achieve the reductions needed to prevent grave injury from global warming, the U.S. Environmental Protection Agency must lead the way, and not shirk its responsibilities as set forth in the federal Clean Air Act. Through this brief, *amici* urge the Court to direct EPA to adhere to the plain text of the Act, treat greenhouse gases as air pollutants subject to regulation under Section 202, and apply the legal standard set forth in that provision. The particular interests of each *amicus* are described below.

* * * * *

The U.S. Conference of Mayors represents more than 1,100 cities with populations of 30,000 or more. The Conference promotes the development of effective urban

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[1] The parties have consented to the filing of this brief, and letters reflecting that consent have been filed with the Clerk. This brief was not authored in whole or in part by counsel for a party, and no person or entity other than *amici*, their members, and their counsel made a monetary contribution to the preparation or submission of this brief.

policy, strengthens federal-city relationships, and creates a forum in which mayors can share ideas and information. In June 2005, the Conference endorsed the U.S. Mayors Climate Protection Agreement, which urges federal, State, and local officials to enact policies to reduce global warming pollution.

The National Association of Counties (NACo) was created in 1935, and its membership totals more than 2,000 counties, representing over 80 percent of the nation's population. NACo acts as a liaison with other levels of government, works to improve public understanding of counties, serves as a national advocate for counties, and helps counties find innovative solutions to the challenges they face. NACo is involved in several special projects to protect the environment and promote sustainable communities.

The International Municipal Lawyers Association (IMLA) is a non-profit, professional organization that has been an advocate and legal resource for local governments since 1935. IMLA members include attorneys from more than 1,400 municipalities across the country. It serves as the legal voice for the nation's local governments. In view of the grave threat to municipalities posed by global warming, IMLA has a vital interest in the legal issues raised by this case.

The American Planning Association (APA) is a public interest organization founded in 1978 to advance the art and science of planning at the local, regional, State, and national levels. It represents more than 38,000 planners, officials, and citizens involved in formulating and implementing planning policies and land use regulations. The American Planning Association has adopted two policy

guides that highlight the role and responsibility of planners and the planning profession in addressing climate change issues: its Energy Policy Guide adopted in 2004 (*available at* http://www.planning.org/policyguides/energy.htm), and its Policy Guide on Planning for Sustainability adopted in 2000 (*available at* http://www.planning.org/policyguides/sustainability.htm). The APA encourages its members to combat global warming in several ways, including the design of transportation systems that promote sustainability by reducing dependence on fossil fuels.

The City of Seattle, the largest city in the Pacific Northwest, launched the U.S. Mayors Climate Protection Agreement and has been actively addressing global warming since the early 1990s. Seattle is particularly vulnerable to climate change because its municipal water supply and hydroelectric system are both fed by annual snowpack accumulations in the Cascade Mountains, which have already declined by 50 percent since 1950. Actions to reduce climate pollution emissions are one of the City's highest priorities. Indeed, the City's municipally owned utility, City Light, is the only electric utility in the country that is essentially climate neutral, an achievement made possible by the City's clean hydroelectric supply, reliance on energy conservation, and investments in carbon offsets.

The City of Albuquerque is especially concerned about global warming because warmer climate patterns threaten Albuquerque's ability to rely on nearby rivers for municipal, industrial, and residential use. Albuquerque also is host to the world's most photographed annual event – the International Balloon Fiesta – a 10-day celebration in October that attracts half a million visitors and depends heavily on the cool, clear mornings of a traditional Rocky

Mountain fall. Albuquerque is greatly reducing its own greenhouse gas emissions through the use of alternative fuel vehicles, green building standards, and other innovative programs.

The City of Burlington is particularly concerned about global warming because the forested areas that surround the City face serious threats from insects that can survive in northern climates with slight temperature increases. Damage to these forests will threaten Burlington's maple sugar industry, ski industry, and fall foliage tourism, all of which are integral to the local economy. Burlington has instituted many improvements to reduce greenhouse gas emissions, including transportation initiatives and energy conservation strategies.

San Francisco, which has a population of approximately 777,000, is concerned about global warming because of its harmful effects on San Francisco's power and water supplies, property, and infrastructure. San Francisco has instituted many measures to reduce greenhouse gas emissions, including renewable energy programs and aggressive initiatives to reduce municipal emissions. But because these measures cannot, by themselves, solve the problem of global warming, San Francisco encourages and supports the efforts of other governmental entities to reduce greenhouse gas emissions.

SUMMARY OF ARGUMENT

Respect for State and local authority requires adherence to the broad plain meaning of the federal Clean Air Act. The cumulative position of various federal agencies is that EPA has no legal authority to regulate greenhouse

gas emissions from motor vehicles under the Clean Air Act, and that the federal Energy Policy and Conservation Act of 1975 preempts States from controlling these emissions under State law. These positions are exceedingly unfair to States and municipalities, who will be the first responders to the disasters caused by global warming. EPA's position also directly threatens the ability of States to adopt greenhouse gas standards for motor vehicles under section 209(b) of the Clean Air Act. Moreover, without federal leadership, State and local efforts to address global warming will be entirely inadequate to protect critical State and local interests.

Global warming is not merely a future threat, but a present deadly reality, claiming the lives of up to 150,000 people each year due to malnutrition, malaria, and other maladies. In addition to these ongoing public health consequences, global warming is likely to mean more disasters such as intense hurricanes and storm surges crashing into America's eastern seaboard, one of the fastest growing parts of the country. Municipalities also must grapple with the less cataclysmic but still threatening challenges of climate change: more smog; sudden rainstorms that overwhelm and pollute municipal water supplies and flood transportation networks; and droughts that disrupt hydropower transmission and deplete local reservoirs.

The continuing and threatened impacts of global warming highlight the remarkable nature of Respondents' assertion that *none* of the States, cities, and national organizations that filed this litigation has standing. But Petitioners' injury does not turn on whether global warming reaches some catastrophic level. Rather, Petitioners already are injured and will suffer more injury with each

additional increment of human-induced global warming. EPA has the power to redress these injuries by mandating reductions in greenhouse gases under Section 202 of the Clean Air Act. All of the necessary elements for standing have plainly been met here.

ARGUMENT

Amici agree with the textual exegesis and legal analysis provided by Petitioners, and there is no need to repeat those arguments here. Instead, we explain why this case is of particular concern to local officials and planners, who are the first responders to the serious harm that global warming is causing and will continue to cause, and why Respondents' contentions threaten the interests of municipalities and their residents.

I. PRINCIPLES OF FEDERALISM AND RESPECT FOR STATE AND LOCAL AUTHORITY COMPEL ADHERENCE TO THE BROAD PLAIN MEANING OF THE FEDERAL CLEAN AIR ACT.

In interpreting other federal environmental statutes, the Court sometimes has invoked principles of federalism to support a narrow reading of federal authority. *E.g.*, *Solid Waste Agency of N. Cook County v. United States Army Corps of Eng'rs*, 531 U.S. 159, 174 (2001). In many situations, however, an adequate federal presence is essential to promote federalism, preserve State sovereignty, and protect State and local interests. *E.g.*, *Rapanos v. United States*, 126 S. Ct. 2208, 2246-47 (2006) (Kennedy, J., concurring) (observing that adequate federal protection

of intrastate tributaries and wetlands promotes State interests due to the interstate harm caused by their destruction). In this case, respect for State and local authority requires adherence to the broad plain meaning of the federal Clean Air Act, for several reasons.

First, the positions of various federal agencies regarding greenhouse gas regulation have left State and local officials in an untenable position. In an administrative proceeding not at issue in this litigation, the National Highway Traffic Safety Administration (NHTSA) recently asserted that the federal Energy Policy and Conservation Act of 1975 (EPCA) preempts State and local officials from regulating greenhouse gas emissions from motor vehicles. *See* 71 Fed. Reg. 17566, 17654-70 (April 6, 2006) (discussing preemption under 49 U.S.C. § 32919(a)). Thus, the cumulative position of EPA and NHTSA is that EPA cannot regulate greenhouse gas emissions from motor vehicles under the Clean Air Act, and EPCA preempts other levels of government from doing so under State law.

Worse still, in setting fuel efficiency standards, NHTSA does not consider the harm threatened by global warming. Specifically, NHTSA does not count the benefits of reducing greenhouse gases in its cost-benefit analysis for federal corporate average fuel economy (CAFE) standards. *See id.* at 17638 (rejecting proposals to consider the value of greenhouse gas reductions in setting CAFE standards).

Thus, unlike the typical case in which a federal agency disavows legal authority, which normally would leave the matter to our State and local officials, EPA's position here takes on far greater significance. We disagree with NHTSA's assertion regarding preemption, but

until a court rules differently, adequate federal control of greenhouse gas emissions from motor vehicles is even more urgent due to the prospect of States being unable to regulate them. The cumulative impact of the EPA and NHTSA positions is exceedingly unfair to State and local officials, who will be the first responders to the disasters caused by global warming (see Section II, *infra*).

Second, an unduly constrained reading of the federal Clean Air Act would curtail the regulatory authority of every State. Although Section 209(a) of the Act preempts State standards relating to the control of motor vehicle emissions, Section 209(b) allows California to adopt such standards subject to EPA approval, and it authorizes every other State to adopt standards identical to California's. *See* 42 U.S.C. §§ 7543(a) & (b). Under this authority, California has promulgated greenhouse gas emission standards for mobile sources, and several other States have adopted those standards.[2] If greenhouse gases are deemed "air pollutants" under the Clean Air Act, the waiver authority under Section 209 would provide a safe harbor and authorize these State standards notwithstanding NHTSA's reading of EPCA discussed above. But unless the appeals court's ruling below is reversed, all of these standards will likely be rendered inoperative, and all States will likely be prohibited from using Section 209 to address greenhouse gas emissions from motor vehicles.

As Justice Kennedy has recognized, "the States maintain permanent staffs within special agencies" to implement the federal Clean Air Act, and these State

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[2] *See* Cal. Code Regs., tit. 13, §§ 1900, 1961, 1961.1 (2006); 71 Fed. Reg. 17566, 17655 (April 6, 2006) (discussing the California standards).

employees "no doubt take pride in their own resourcefulness, expertise, and commitment to the law." *Alaska Dep't of Envtl. Conservation v. EPA*, 540 U.S. 461, 516 (2004) (Kennedy, J., dissenting). By ignoring the plain text of the Act, EPA disrespects the States that have adopted California's greenhouse gas standards under a straightforward reading of the Act, essentially "relegating [them] to the role of mere provinces or political corporations, instead of coequal sovereigns entitled to the same dignity and respect." *Id.* at 518.

Finally, global warming is exactly the kind of national and international issue that the Founders would have recognized as requiring a national response. Federalism, properly viewed, does not maximize State authority at the expense of federal authority, but instead ensures that each level of government has the appropriate authority necessary to promote the welfare of our citizens. Given the enormity of the problem posed by global warming, it does no violence to principles of federalism to give full effect to the broad authority set forth in the Clean Air Act. As John Jay put it, the Founders at the Constitutional Convention believed "that a national government competent to every national object, was indispensably necessary."[3]

States and localities already are taking significant steps to reduce greenhouse gas emissions. For example, many U.S. municipalities have reduced greenhouse gas emissions from municipal fleets by purchasing alternative-fuel vehicles, downsizing their fleets, and optimizing

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[3] A Citizen of New York (John Jay), *Address to the People of the State of New York* (Apr. 15, 1787), in 17 DOCUMENTARY HISTORY OF THE RATIFICATION OF THE CONSTITUTION 101, 111 (Merrill Jensen, John P. Kaminski & Gaspare J. Saladino eds., 1976).

vehicle travel.[4] Cities and counties also have turned to wind power, solar power, and other renewable sources of electricity to reduce fossil fuel consumption.[5] In the absence of federal leadership, however, these efforts will not reduce climate pollution enough to avoid devastating injury to local communities.

Moreover, "free-rider" inequities arise because the States that do little to address global warming still benefit from the sacrifices made by other States and municipalities. In *Rapanos*, Justice Kennedy observed in concurrence that federal protection of wetlands and non-navigable waterways promotes the interests of all States because it protects them from pollution and flooding caused by environmental degradation in upstream States. *See Rapanos*, 126 S. Ct. at 2246-47. In the same way, federal regulation of greenhouse gas emissions will promote the interests of all States by protecting them from the threat of global warming and reducing the free-rider inequities arising from the relative inattention of certain States.

II. UNLESS OUR NATION TAKES ADEQUATE STEPS TO CONTROL GREENHOUSE GASES NOW, GLOBAL WARMING WILL CONTINUE TO CAUSE DEVASTATING HARM TO LOCAL COMMUNITIES ACROSS THE COUNTRY.

Global warming is not merely a future threat, but a present deadly reality. The World Health Organization

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[4] *See* International Council for Local Environmental Initiatives (ICLEI), U.S. Cities for Climate Protection Campaign, Green Fleets, <http://www.greenfleets.org/LocalGovernmentExamples.html>.

[5] *See* ICLEI, Green Power Options, <http://www.greenpowergovs.org/>.

estimates that anthropogenic (human-produced) warming already is killing up to 150,000 people each year due to malnutrition, malaria, and other maladies.[6] In addition to these ongoing public health consequences, global warming also is causing immediate harm to the environment.[7] And the overwhelming scientific consensus is that global warming will significantly worsen.

Conservative predictions indicate that average global temperatures will climb between 4.5 and seven degrees Fahrenheit by the end of the century.[8] These numbers might seem small, but small shifts in global temperature can have enormous effects. Indeed, there is only about a ten degree increase between today's average global temperature and that at the height of the last ice age.[9] The

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[6] *See* Jonathan Patz *et al.*, *Impact of Regional Climate Change on Human Health*, 438 NATURE 310, 310 (Nov. 17, 2005) (World Health Organization estimates that "warming and precipitation trends due to anthropogenic climate change of the past 30 years already claim over 150,000 lives annually"); *id.* at 313 (citing A.J. MCMICHAEL *ET AL.*, COMPARATIVE QUANTIFICATION OF HEALTH RISKS: GLOBAL AND REGIONAL BURDEN OF DISEASE DUE TO SELECTED MAJOR RISK FACTORS 1543-1649 (World Health Organization, Geneva, 2004)).

[7] J. Alan Pounds *et al.*, *Widespread Amphibian Extinctions from Epidemic Disease Driven by Global Warming*, 439 NATURE 161, 165 (Jan. 12, 2006) (global warming already has helped cause the loss of many species and poses "an immediate threat to biodiversity.").

[8] U.S. DEPARTMENT OF STATE, U.S. CLIMATE ACTION REPORT 2002, at 82 (May 2002) [hereinafter CLIMATE ACTION REPORT], <http://www.epa. gov/globalwarming/publications/car/index.html>; *accord* Richard A. Kerr, *News Focus: Three Degrees of Consensus*, 305 SCIENCE 932, 932 (Aug. 13, 2004) ("almost all the evidence points to 3°C [or 5.4°F] as the most likely amount of warming for a doubling of CO_2 * * * by century's end.").

[9] ELIZABETH KOLBERT, FIELD NOTES FROM A CATASTROPHE 107 (2006).

United States is likely[10] to warm between three and nine degrees Fahrenheit during this century.[11]

The harm caused by global climate change will be especially challenging for State and local officials, who will serve as the first responders to the calamities global warming will bring. As has been made tragically clear in the United States in the wake of recent disasters, State and local officials are responsible for orderly evacuations from fires and floods, and they must plan and reconstruct neighborhoods or entire cities afterwards. Global warming is likely to mean more disasters like intense hurricanes and high storm surges crashing into America's eastern seaboard, which is one of the most urbanized parts of the country and one of the fastest growing.

Municipalities also must grapple with the less cataclysmic but still threatening challenges of climate change, such as higher temperatures that lead to more smog and federal sanctions for violating clean air standards; or sudden ferocious rainstorms that overwhelm and pollute municipal water supplies and flood transportation networks; or droughts that disrupt hydropower transmission and deplete local reservoirs. As discussed in more detail

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[10] In the scientific dialogue on climate change, the words "likely" and "very likely" have particular meaning. For example, in the Climate Change Impacts Reports prepared for the federally sponsored U.S. Global Change Research Program, "likely" indicates a likelihood of around 60 to 80 percent, and "very likely" indicates a likelihood of around 80 to 100 percent. *See* NATIONAL ASSESSMENT SYNTHESIS TEAM, CLIMATE CHANGE IMPACTS ON THE UNITED STATES: THE POTENTIAL CONSEQUENCES OF CLIMATE VARIABILITY AND CHANGE, REPORT FOR THE U.S. GLOBAL CHANGE RESEARCH PROGRAM 5 (2001) [hereinafter CLIMATE CHANGE IMPACTS], <http://www.usgcrp.gov/usgcrp/Library/nationalassessment/foundation htm>.

[11] CLIMATE ACTION REPORT, *supra* note 8, at 84.

below, State and local officials across the United States face one or more of these challenges.

A. Local Officials Must Deal With Threats To People And Infrastructure From Flooding, Storm Surges, And Wildfires, All Of Which Will Worsen Because Of Global Warming.

Increasing sea levels are one of the most certain aspects of climate change.[12] The Intergovernmental Panel on Climate Change (IPCC) has high confidence (a 67-95% degree of certainty) that higher sea levels around North America will lead to "enhanced coastal erosion, coastal flooding, loss of coastal wetlands, and increased risk from storm surges, particularly in Florida and much of the U.S. Atlantic coast."[13] The IPCC projects a rise of sea levels across the globe of three inches to almost three feet by 2100.[14]

Rising sea levels affect coastal communities in several ways. First, low-lying areas may be permanently underwater as seas rise. In the New York City area, for example, "[a] one-foot rise in sea level would bring about on average 120 feet of erosion and submergence absent costly measures

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[12] *Id.* at 156.

[13] IPCC, CLIMATE CHANGE 2001: IMPACTS, ADAPTATION, AND VULNERABILITY, CONTRIBUTION OF WORKING GROUP II TO THE THIRD ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE 4 n.6, 16 [hereinafter WORKING GROUP II] (James J. McCarthy *et al.*, eds., 2001), <http://www.ipcc.ch/pub/wg2SPMfinal.pdf>.

[14] IPCC, CLIMATE CHANGE 2001: THE SCIENTIFIC BASIS, CONTRIBUTION OF WORKING GROUP I TO THE THIRD ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE 16 (J.T. Houghton *et al.*, eds., 2001), <http://www.grida.no/climate/ipcc_tar/wg1/pdf/WG1_TAR-FRONT.PDF>.

to defend or restore the beaches. This kind of erosion would result in the loss of a significant portion of the beaches of New Jersey, New York City and Long Island."[15] A five to eight-inch rise in sea level would cause the loss of "thousands of acres" of beachfront land in Long Island and New Jersey.[16]

Rising sea levels also mean higher storm surges (since the surge starts from a higher waterline). By the turn of the next century, New York City's 100-year floods could instead occur every 19 years, and overwhelm the city's airports, highways, subways, and tunnels. As a result of sea level increases, weaker, more frequent storms in the future probably will do more damage than powerful, extraordinary storms do today. If a category three hurricane hit New York City, "surge levels could rise 25 feet above mean sea level at JFK airport and 21 feet at the Lincoln tunnel."[17]

Baltimore, Maryland, also has infrastructure at serious risk from rising sea levels and flooding. According to one city official, "if the predictions of current, scientifically accepted global climate change models relating to changes in annual precipitation and sea level changes occur, those changes would have significant costly impacts to Baltimore City. * * * Impacted infrastructure would include storm drains, utility conduits, underground at grade parking and sanitary sewage conveyance and treatment facilities. This entire public and private infrastructure is designed and built around the existing sea

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[15] C.A. Standing App. 234-235 (Oppenheimer Decl.).

[16] *Id.* at 235.

[17] CLIMATE CHANGE IMPACTS, *supra* note 10, at 118, 122.

level."[18] Both Santa Cruz, California, and Boston, Massachusetts, would see formerly 100-year floods every ten years if sea level rises just one foot.[19]

Natural and human-induced changes, including the destruction of marshes, barrier islands, and wetlands over the last several decades, make the U.S. Gulf Coast particularly susceptible to damage from rising sea levels. By 2010, 73 million people will live in the nation's most hurricane-prone counties, most of them in the Southeast United States. They will be in the path of more destructive storms because climate change probably will increase the intensity, if not the frequency, of Atlantic hurricanes.[20] Allstate Insurance Corporation no longer issues new policies to homeowners in Florida, Louisiana, the New York City area, and the Texas Gulf Coast because of the high risk of hurricane destruction.[21] Like private homes, public property – roads, sewers, schools, police stations – is also at risk.

Wildfires are yet another natural threat to human life and property that global warming will exacerbate. Scientists have documented a sudden, sharp upsurge in wildfires in the western U.S., with more frequent large

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[18] C.A. Standing App. 38-40 (Conrad Decl.).

[19] CALIFORNIA CLIMATE CHANGE CENTER, OUR CHANGING CLIMATE: ASSESSING THE RISKS TO CALIFORNIA 12 (2006), <http://www.energy.ca.gov/2006publications/CEC-500-2006-077/CEC-500-2006-077.PDF>; C.A. Standing App. 197-198 (Kirshen Decl.).

[20] CLIMATE ACTION REPORT, *supra* note 8, at 100-01; *see also* Kevin E. Trenberth and Dennis J. Shea, *Atlantic hurricanes and natural variability in 2005*, 33 GEOPHYSICAL RESEARCH LETTERS L12704 (2006).

[21] Spencer S. Hsu, *Insurers Retreat from Coasts*, WASH. POST, Apr. 30, 2006, at A1; *see also* Anthony Ramirez, *Allstate to Pare Home Policies Near Shore*, N.Y. TIMES, Mar. 10, 2006, at B4.

wildfires, longer-burning fires, and longer fire seasons, starting in the mid-1980s. It is not clear whether the current rise in wildfire frequency and ferocity is attributable to global warming, but researchers note that "virtually all climate model projections indicate that warmer springs and summers will occur over the region in coming decades. These trends will reinforce the tendency toward early spring snowmelt and longer fire seasons. This will accentuate conditions favorable to the occurrence of large wildfires * * *."[22]

Wildfires require a massive municipal response, going well beyond fire and police departments. When the largest wildfires in California history swept through the San Diego region in late October 2003, the City of San Diego set up three evacuation centers. City staff assessed 400 damaged structures in 72 hours after the fire stopped. The City's transportation department removed damaged trees, distributed 14,000 sandbags, and placed screens on storm drains to keep out fire debris.[23] While much of the cost of responding to the fire was covered by federal disaster aid, the City lost about $2 million in waived fees associated with reconstruction, and was not reimbursed for other lost revenues, or the replacement of trees, shrubs, and groundcover destroyed by the fire.[24]

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[22] A.L. Westerling *et al.*, *Warming and Earlier Spring Increases Western U.S. Forest Wildfire Activity*, SCIENCE EXPRESS RESEARCH ARTICLES, July 6, 2006, at 1, 4.

[23] Michael T. Uberuaga, *Initial 30-Day Post-Fire Overview* (Dec. 3, 2003) (The City of San Diego Manager's Report No. 03-242), <http://clerkdoc.sannet.gov/RightSite/getcontent/local.pdf?DMW_OBJECTID=09001451800ab1e5>.

[24] Lisa Irvine, *Update on the Costs and Reimbursement for the October 2003 Cedar Fire* (Mar. 26, 2004) (The City of San Diego

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Whether to fire or flood, the crucial first hours of disaster response are a local responsibility. Global warming will increase the likelihood of natural disasters, and therefore increase the demands on local and county officials, employees, services, and budgets.

B. Local Officials Must Deal With The Effects Of Deadly Heat Waves and Heat-Related Air Pollution.

Not surprisingly, the Intergovernmental Panel on Climate Change notes that very hot days and more heat waves are "very likely" (a 90-99 percent chance) to occur as a result of climate change.[25] Increased temperatures present enormous challenges to county and local governments, and can have devastating effects on human health, particularly in urban areas.

Heat waves are a major global warming challenge for municipal governments – one that is present now, not looming in the future. In early August 2006, the chief of the climate-analysis branch of the National Center for Atmospheric Research said that "[t]here are very good reasons to believe that the current U.S. heat wave is at least partly caused by global warming."[26] Urban areas are doubly at risk of heat waves because they trap heat, meaning residents cannot recover from intense heat

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Manager's Report No. 04-067), <http://clerkdoc.sannet.gov/RightSite/getcontent/local.pdf?DMW_OBJECTID=09001451800ae4e0>.

[25] WORKING GROUP II, *supra* note 13, at 7.

[26] Juliet Eilperin, *More Frequent Heat Waves Linked to Global Warming*, WASH. POST, Aug. 4, 2006, at A3.

overnight, and because they tend to be home to poor and vulnerable populations.[27]

Major cities are already devoting resources to combating heat waves, recognizing that these events demand the same response as hurricanes, floods, or terrorist attacks. During an excruciatingly hot period in late July and early August this year, the city of New York opened more than 350 cooling centers, relied on back-up generators to avoid power failures, and activated the city's Emergency Operations Center. All towns in Rhode Island had to open at least one public cooling facility. Chicago officials tried to avert the same consequences of a 1995 heat wave that killed 700 people;[28] in 2006, they evacuated more than 1000 residents after a power failure in high-rise apartments and opened scores of cooling centers.[29]

The July 2006 heat wave in California was the likely cause of more than 160 deaths, making it more deadly than the Loma Prieta earthquake of 1989 and Northridge earthquake of 1994. In the State's hottest inland regions, county morgues were over their capacity. Public officials called the heat wave "an invisible natural disaster."[30]

The EPA estimates that, under one climate change scenario, "excess weather related mortality" in a single year would mean the death of 1250 people in New York City, 600 people in St. Louis, and between 200 and 300

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[27] CLIMATE ACTION REPORT, *supra* note 8, at 106.

[28] CLIMATE CHANGE IMPACTS, *supra* note 10, at 106.

[29] Amanda Paulson, *When heat hits, city hall comes to the rescue*, CHRISTIAN SCIENCE MONITOR, Aug. 3, 2006, at 1.

[30] Amanda Covarrubias, *California Heat Wave Deaths Prompt Health Study*, L.A. TIMES, Aug. 3, 2006, at B1.

people in Atlanta, Dallas, and Los Angeles.[31] Municipal governments are responsible for averting as many of these deaths as possible, and the costs they incur in doing so will be, at least in part, costs of global warming.

Warmer weather also exacerbates pollution, particularly ground-level ozone or smog, which is already a major health concern in our nation's cities and counties. Ozone forms when volatile organic compounds (VOCs), emitted by dry cleaners, cars, chemical plants, refineries, and other industrial sources, react with nitrogen oxides, emitted by vehicles and power plants, on hot and sunny days. A warmer climate means more days on which ozone is likely to form. For example, if temperatures rise three to 5.5 degrees, the number of days conducive to ozone formation in Los Angeles will rise by about 25 percent; if temperatures rise 5.5 to eight degrees, the number of ozone-conducive days increases by 75 percent.[32] Hot weather can also create a vicious cycle of ozone pollution: energy usage spikes on hot days (in part because more people use air conditioning), leading to the emissions of more ozone-forming pollutants from power plants.[33]

Currently, 462 counties, home to more than 158 million people, exceed federal standards for ozone levels.[34] Global warming, by making ozone formation more likely,

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[31] U.S. EPA, *Average Annual Excess Weather-Related Mortality for 1993, 2020, and 2050 Climate*, slide <http://yosemite.epa.gov/OAR/globalwarming.nsf/content/ResourceCenterPresentationsImpacts.html>.

[32] CALIFORNIA CLIMATE CHANGE CENTER, *supra* note 19, at 5.

[33] JA 233 n.18 (MacCracken Decl.); *see also* Janet Wilson, *Intense Heat Begets Intense Smog*, L.A. TIMES, Aug. 3, 2006, at A15.

[34] U.S. EPA, *Green Book, 8-Hour Ozone, 8-Hour Ozone Nonattainment Area/State/County/Report*, <http://www.epa.gov/oar/oaqps/greenbk/gnca.html>.

will make compliance with federal standards even more difficult, and non-compliance carries severe penalties for state and local governments. States have to go through the difficult process of revising their state air quality plans to find more ways to reduce ozone levels.[35] Local governments have to adopt vehicle inspection programs, impose alternative fuel requirements on vehicle fleets, require area gas stations to sell less-polluting gasoline, and enact measures to reduce car and truck travel.[36] Local governments also suffer indirectly when the stringent pollution restrictions imposed on high ozone areas discourage industries from building or expanding facilities there; local governments lose tax revenues and job opportunities for residents.[37]

C. Local Officials Must Deal With Water Scarcity And Water Pollution That Are Exacerbated By Global Warming.

In 2000, researchers working under the auspices of the U.S. Department of Energy came to the disturbing conclusion that "even with a conservative climate model, *current* demands on water resources in many parts of the West will not be met under plausible future climate conditions, much less the demands of a larger population and a larger economy."[38] For instance, the Colorado River

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[35] C.A. Standing App. 1-7 (Kwetz Decl.).

[36] JAMES E. MCCARTHY, CONGRESSIONAL RESEARCH SERVICE, CLEAN AIR ACT: A SUMMARY OF THE ACT AND ITS MAJOR REQUIREMENTS, CRS-5-CRS-7 (2005).

[37] Kim McGuire, *Memphis area's air upgraded by EPA Huckabee: County is 'open for business,'* ARK. DEMOCRAT-GAZETTE, Sept. 14, 2004.

[38] Tim Barnett *et al.*, *The Effects of Climate Change on Water Resources in the West: Introduction and Overview*, 62 CLIMATIC CHANGE

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Reservoir system will fail to provide enough water to Southern California and inland areas by 2050. Hydroelectric power from the Colorado River will drop by as much as 40 percent.[39]

The linchpin of water resources in much of the West is mountain snowpack. Snow acts as a natural frozen reservoir, holding winter precipitation, then releasing it in the spring and summer as water runoff. In the Rockies, snowpack supplies 85 percent of the water supply.[40] Snowmelt is a major source of drinking water for San Francisco[41] and other California municipalities,[42] and likely constitutes about 35 percent of California's overall surface water supply.[43]

Pacific Northwest cities like Seattle also depend on snowpack for drinking water. Between 1950 and 2000, the region's temperature rose, and snowpack accumulations at

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1, 6 (2004), <http://www.uwyo.edu/enr/enrschool/ENR4900_5900/Barnett%20et%20al.%202004.pdf>.

[39] *Id.* at 6-7.

[40] Gregory Zimmerman *et al.*, *Climate Change: Modeling a Warmer Rockies and Assessing the Implications*, in 2006 COLORADO COLLEGE STATE OF THE ROCKIES REPORT CARD 89, 97 (Walter Hecox *et al.*, eds., 2006), <http://www.coloradocollege.edu/stateoftherockies/06ReportCard/Climate%20Change,%20updated%2005-01-05.pdf>.

[41] SAN FRANCISCO PUBLIC UTILITIES COMM'N, 2005 SFPUC WATER QUALITY REPORT 4 (2006), <http://www.sfwater.org/detail.cfm/MC_ID/13/MSC_ID/166/MTO_ID/299/C_ID/3056>.

[42] Jennifer Steinhauer, *Clinton Foundation to Work to Reduce Greenhouse Gases*, N.Y. TIMES, Aug. 2, 2006, at A3.

[43] Michael Floyd *et al.*, *Potential Impacts of Climate Change on California's Water Resources*, in PROGRESS ON INCORPORATING CLIMATE CHANGE INTO MANAGEMENT OF CALIFORNIA'S WATER RESOURCES TECHNICAL MEMORANDUM REPORT, 2-1: 2-22 (California Dept. of Water Resources 2006), <http:// baydeltaoffice.water.ca.gov/climatechange/DWRClimateChangeJuly06.pdf>.

many measuring sites in the Cascade Mountains decreased by more than 40 or 50 percent.[44] "Clearly, regional warming has played a role in the decline in SWE [snow water equivalent, a measure of snowpack] * * *."[45]

Global warming could cause the Sierra Nevada snowpack in California to drop by 70 to 90 percent; even if global warming emissions are cut sharply and the temperature rises just a few degrees, snowpack losses will be 35 to 45 percent.[46] According to the Chief Hydrologist of the California Department of Water Resources, "a decrease in the snow pack would decrease the spring runoff * * *. Less spring runoff would make it more difficult to refill winter reservoir flood control space during the late spring and early summer, thus potentially reducing the amount of water available during the dry season. Lower early summer reservoir levels would also adversely affect hydroelectric power production and lake recreation."[47] The Rockies and Cascades also face significant snowpack reductions.

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[44] P.W. Mote, *Trends in snow water equivalent in the Pacific Northwest and their climatic causes*, 30 GEOPHYSICAL RESEARCH LETTERS 1601, 3-1 to 3-4 (2003); P.W. Mote *et al.*, *Variability and Trends in Mountain Snowpack in Western North America, Proceedings of the 15th Conference on Global Climate Variations and Change* 5.1 (2004).

[45] Mote, 30 GEOPHYSICAL RESEARCH LETTERS, at 3-4. The author notes that "regional warming at the spatial scale of the Northwest cannot be attributed statistically to increases in greenhouse gases. However, as greenhouse gases continue to accumulate, regional warming is likely to continue as well, and questions of cause will recede."

[46] CALIFORNIA CLIMATE CHANGE CENTER, *supra* note 19, at 3, 6.

[47] C.A. Standing App. 242 (Roos Decl.).

While the West struggles with water scarcity, other regions could face unusual floods and the resulting contamination of the water supply. Heavier rainfall in certain areas is a likely result of climate change.[48] Heavy rainfall means more storm water runoff, as the inundated ground cannot absorb the rainwater racing across it. Heavy rains also increase the possibility of human exposure to waterborne diseases like cryptosporidium.

III. DUE TO THE CONTINUING AND THREATENED INJURIES RESULTING FROM GLOBAL WARMING, NEW YORK CITY AND BALTIMORE HAVE STANDING IN THIS CASE.

The foregoing discussion of continuing and threatened impacts of global warming highlights the remarkable nature of Respondents' assertion that *none* of the States, cities, and national organizations that filed this litigation has standing to challenge EPA's refusal to use Section 202 to reduce greenhouse gas emissions. Only one of the plaintiffs below needed standing for a decision on the merits in this case, and we agree with D.C. Circuit Judge David Tatel that the State of Massachusetts has plainly demonstrated standing. Pet. App. A-23 to A-26.

The municipal *amici* on this brief are concerned about the scope of Respondents' standing argument and its implications for municipal plaintiffs in future cases. We therefore offer the following observations regarding the standing of two municipal Petitioners – the City of New York and the Mayor and City Council of Baltimore – and

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[48] CLIMATE ACTION REPORT, *supra* note 8, at 108.

show they have demonstrated all the elements necessary for standing.

A. Municipal Petitioners Have Shown Injury-in-Fact.

The standing affidavits submitted in this case document ongoing and potential injuries from global warming that are numerous and profound, particularized and imminent. These affidavits show injury-in-fact many times over.

Because of global warming, New York area governments will have to deal with more frequent and more damaging storms, more flooding, more erosion, and a correspondingly dramatic increase in the City's spending on storm-damaged infrastructure caused by rising sea levels. C.A. Standing App. 267 (Joint Decl.of Solecki *et al.*). Local authorities will also face "an increase in summer-season heat stress morbidity and mortality, particularly among the elderly poor," and an increase in the incidence of vector-borne diseases and photochemical air pollutants such as smog. *Id.* at 268.

The City of Baltimore documents similar and equally devastating injuries from higher temperatures, including greater concentrations of ozone, a higher frequency of floods, and higher storm surges. C.A. Standing App. 36-39 (Conrad Decl.). As a result of these injuries, Baltimore would face greater costs in repairing and building new infrastructure and adverse effects on its tourism industry and economy. *Id.*

B. Municipal Petitioners Have Shown Causation and Redressability.

Recognizing that global warming is real and already causing injury-in-fact to Petitioners, Respondents do not contest this element. Instead, they argue that because U.S. motor vehicles are one of many sources of greenhouse gases, and action here by EPA might lower global emissions by only a relatively small amount, Petitioners have failed to show either causation or redressability.

Specifically, Respondents assert that Petitioners have not demonstrated standing because they "failed to establish that the injuries they allege from global warming are traceable to greenhouse gas emissions from new vehicles in the United States – rather than to greenhouse gas emissions from other sources in the United States, greenhouse gas emissions from vehicles or other sources elsewhere in the world, or entirely different factors – and that a decision to require regulation of emissions of greenhouse gases from new motor vehicles in the United States would redress their injuries." Fed. Respondent Cert. Opp. at 12.

This challenge to Petitioners' standing mischaracterizes both the injury shown by Petitioners and the science of global warming. Global warming is not like the dam in *Lujan v. Defenders of Wildlife*, 504 U.S. 555 (1992), which either would be built, causing injury, or not. With global warming, injury is a matter of degree. The issue is not whether the earth will be hotter; it already is. The question is how hot the earth will get. It is not whether the seas will rise, or the glaciers will recede, or the ice caps will melt; it's how much. Petitioners' injury does not turn on whether global warming will reach some catastrophic level. They are already injured and will suffer more injury

with each additional increment of human-induced global warming.

The determinant in the "how hot?" and "how much?" equation is the concentration level of greenhouse gases. Greenhouse gases "act in a manner roughly equivalent to adding a blanket over the earth." JA 229 (MacCracken Decl.). The thicker the blanket, the warmer the earth. *Id.* ("[t]he higher the concentrations of greenhouse gases, especially CO_2, CH_4, and N_2O, the greater will be the trapping of heat and the increase in surface temperature."); *see also* C.A. Standing App. 233 (Oppenheimer Decl.) (discussing the different consequences if atmospheric concentration of CO_2 is stabilized at 400 parts per million versus 450 parts per million).

Certain greenhouse gases linger in the atmosphere for a very long time. Carbon dioxide, for example, "has a residence time of roughly 50-200 years." Pet. App. A-73. As a result, emissions – and emission reductions – of carbon dioxide are cumulative. If EPA acts now to reduce these emissions from U.S. mobile sources, the achievable reductions in emissions will grow over time. In the end, the effect of EPA action would be like removing a very thick blanket from the earth's atmosphere.

Alone, EPA action under Section 202 will not stop global warming altogether. But EPA could mandate emission reductions that reduce the concentration of greenhouse gases in the atmosphere and thereby delay and moderate, to a significant extent, the impacts of global warming. *See* JA 225-226 (MacCracken Decl.) ("[a]chievable reductions in CO_2 and other greenhouse gases from U.S. motor vehicles would significantly reduce the build-up in atmospheric concentrations of those gases and delay and moderate many of the adverse impacts of global

warming."); C.A. Standing App. 232 (Oppenheimer Decl.) ("actions by the United States to reduce its emissions can materially affect ambient levels of CO_2 and other GHGs in the atmosphere."). This is all that is necessary for standing under Article III.

Respondents rely heavily on an analogy to cases such as *Lujan v. Defenders of Wildlife*, 504 U.S. 555 (1992), *Simon v. E. Ky. Welfare Rights Org.*, 426 U.S. 26 (1976), and *ASARCO Inc. v. Kadish*, 490 U.S. 605 (1989), for the proposition that standing is lacking where a defendant is responsible for only a part of a larger injury. This reliance is misplaced. In each of those cases, the problem was not the quantum of redress, but rather whether a court order would bring redress at all.

In *Lujan*, for example, the plaintiffs asserted that their interests in the preservation of endangered species would be injured if agencies such as the Agency for International Development (AID) could fund overseas projects without consulting with the Secretary of the Interior about potential impacts on endangered species. *See Lujan*, 504 U.S. at 562. A plurality of the Court concluded that redressability was too speculative because of questions about whether (1) agencies such as AID would be bound by an order by the Secretary demanding consultation, (2) consultation would lead to a decision by AID not to fund any particular project, and (3) a decision by AID not to fund a project would result in any modification to the project, given that AID funding was "less than 10% of the funding" for the project at issue. *Id.* at 571. The plurality concluded that, "[a]s in *Simon*, 426 U.S., at 43-44, it is entirely conjectural whether the non-agency activity that affects respondents will be altered or affected by the agency activity they seek to achieve." *Id.*

No conjecture is required here. EPA has the power to mandate significant reductions in greenhouse gas emissions through the Section 202 authorization of "standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines." 42 U.S.C. § 7521(a)(1).[49] Any such action by EPA would lower the concentration of greenhouse gases in the atmosphere, reduce the greenhouse effect, and help redress Petitioners' injuries. No action by third parties could plausibly stand in the way. While not necessary to find standing here, the reality is that third parties beyond EPA's control – namely foreign governments and vehicle manufacturers selling overseas – almost certainly will follow EPA's lead, greatly *increasing* the redress to Petitioners. JA 239 (MacCracken Decl.); JA 244-245 (Walsh Decl.).

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[49] There is, of course, some level of uncertainty introduced by the limited nature of the relief sought by Petitioners. Petitioners are not asking for an order requiring EPA to regulate greenhouse gases under Section 202. Rather, they seek a remand to EPA for the determination required by Section 202: whether mobile sources of greenhouse gases "cause, or contribute to, air pollution which may be reasonably anticipated to endanger public health or welfare." 42 U.S.C. § 7521(a)(1). While the science of global warming points to only one answer to this question, it is possible that EPA could, on remand, decide that the statutory standard is not met. This uncertainty stems from the procedural nature of the right asserted by Petitioners in this case – they are asking simply that EPA follow the mandatory procedures established in Section 202. As this Court recognized in *Lujan*, Petitioners have standing to demand compliance with such procedures even if they "cannot establish with any certainty" that following them will result in EPA taking meaningful action to reduce greenhouse gas emissions. *Lujan*, 504 U.S. at 573 n.7.

The stakes in this case are as concrete and momentous as any the Court will face this Term. New York City and Baltimore have shown that EPA has refused to follow the plain language of the Clean Air Act and, in doing so, exposed the cities and their inhabitants to severe injury and a grave risk of a diminished future. The truth about redressability is that if the United States is going to seriously confront the problem of global warming, there is no better place to begin than the transportation sector, which constitutes a large and growing percentage of U.S. greenhouse gas emissions. For these reasons, there can be little doubt that this dispute is a "case or controversy" under Article III.

CONCLUSION

The judgment of the court of appeals should be reversed.

Respectfully submitted.

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COMMONWEALTH OF MASSACHUSETTS, *et al.*,
Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, *et al.*,
Respondents.

On Writ of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

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QUESTIONS PRESENTED

Amicus curiae Washington Legal Foundation will address the first question presented as set forth in the Brief for Petitioner Commonwealth of Massachusetts, *et al.*, specifically:

1. Whether the Administrator of the Environmental Protection Agency has authority to regulate air pollutants associated with climate change under section 202(a)(1) of the Clean Air Act, 42 U.S.C. 7521(a)(1).

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Stephen Brown, "Dispelling The Myth of a Cost-Free Global Warming Treaty," National Center for Policy Analysis, Brief Analysis 298 (June 30, 1999) 6

Comments of the Working Group to Oppose Expanded EPA Authority, November 29, 1999.. 6

Commission on Presidential Debates, October 8, 2004 Debate Transcript 8

Environmental Protection Agency, *Policy Options For Stabilizing Global Climate Change, Final Report to Congress*, Office of Policy, Planning, and Evaluation, PM221 (1990) 15

Felix Frankfurter, *Some Reflections on the Reading of Statutes*, 47 COLUM. L. REV. 527 (1947) 17

Ernest Gellhorn and Paul Verkuil, *Controlling Chevron-Based Delegations*, 20 CARDOZO L. REV. 989 (1999) 17

International Panel on Climate Change, *Climate Change: Mitigation* (2001)..... 6, 7, 19

Kyoto Protocol To The United Nations Framework Convention on Climate Change, Dec. 11, 1997, 37 I.L.M. 22 10

John J. Manning, *The Nondelegation Doctrine as a Canon of Avoidance*, 2000 SUP. CT. REV. 223 (2000) 19

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INTERESTS OF *AMICUS CURIAE*

The Washington Legal Foundation ("WLF") is a national, non-profit public interest law and policy center based in Washington, D.C., with supporters nationwide. WLF's supporters include consumers, businesses, and property owners who are adversely affected by excessive regulation of their activities under various environmental statutes such as the Clean Air Act ("CAA") and Clean Water Act.[1]

Over the years, WLF has filed *amicus* briefs in this Court and lower federal courts opposing the federal government's assertion of regulatory and enforcement authority over certain environmental and health matters. *See, e.g., Rapanos v. United States*, 126 S. Ct. 2208 (2006); *Whitman v. Am. Trucking Assn's, Inc.*, 531 U.S. 457 (2001); *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000); *Envtl. Def. v. Duke Energy Corp., cert. granted*, 126 S. Ct. 2019 (2006).

More particularly, WLF appeared as *amicus* in the court of appeals below in the instant case as an outgrowth of WLF's opposition to a 1999 citizen petition filed with the EPA by a group of organizations led by the International Center for Technology Assessment ("ICTA") seeking regulation of greenhouse gas ("GHG") emissions from new motor vehicles under CAA § 202(a), 42 U.S.C. § 7521. WLF successfully argued in its 47-page filing that EPA should deny ICTA's petition for rulemaking both because the CAA

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[1] All parties have consented to the filing of this brief. Their consents are on file with the Clerk of the Court. Pursuant to Supreme Court Rule 37.6, WLF states that no counsel for a party authored this brief in whole or in part and that no person or entity, other than WLF and its counsel, contributed monetarily to the preparation and submission of this brief.

was not intended to apply to emissions of GHGs and because there was a lack of evidence showing a risk to human health and welfare from anthropogenic GHG emissions. Moreover, any such regulation would impose excessive and unnecessary costs on our society and economy.

In addition, WLF's Legal Studies Division has produced numerous studies, reports, and monographs concerning EPA's excessive and questionable regulations and enforcement practices and policies. *See, e.g.*, Yamada, *EPA Lacks Authority To Regulate Carbon Dioxide Emissions* (WLF Legal Opinion Letter, Oct. 30, 1998); Glaser, *EPA's Latest Maneuvers On "Global Warming" Legally Suspect* (WLF Legal Backgrounder, Nov. 3, 2000).

While WLF agrees with all the arguments presented by the EPA in this case as to why the judgment of the court of appeals should be affirmed, including Petitioners' lack of standing, WLF will focus its brief on the administrative law and related public policy issues as it did in the court of appeals.

SUMMARY OF ARGUMENT

In *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000), in determining whether Congress intended to regulate tobacco products under the Food, Drug and Cosmetic Act, the Court observed that "we must be guided by a degree of common sense as to the manner in which Congress is likely to delegate a policy decision of such economic and political magnitude to an administrative agency." *Id.* at 133. The Court's reliance on common sense interpretation applies with particular force to potential regulation of carbon dioxide ("CO_2") and other GHGs. Tobacco regulation pales as a matter of social and economic importance in comparison with regulation of GHGs because carbon-based fuels are at the heart of our economy and the

way we live our lives. Indeed, potential global climate change and GHG regulation have become the seminal energy and environmental issue of recent years. It is extremely unlikely that Congress authorized regulation in an area of such importance without explicitly saying so and without creating a legislative record reflecting so momentous a step.

ARGUMENT

I. POTENTIAL GLOBAL CLIMATE CHANGE HAS BEEN THE MOST PROMINENT ENERGY AND ENVIRONMENTAL ISSUE OF RECENT YEARS.

A. The Public Debate.

The claim that human activity is changing the global climate has unquestionably been the most prominent issue at the intersection of American energy and environmental policy in recent years. No other issue engenders such extreme predictions of global environmental damage as are made by those who advocate the necessity of GHG controls. At the same time, because significant cuts in GHG emissions would require substantial reductions in the use of fossil fuels such as oil, coal and natural gas even as the economy continues to grow, no other issue creates economic and social challenges of such magnitude. For instance, EPA has observed both that (1) climate change is "perhaps the biggest environmental threat to the planet"[2] and (2) "[i]t is hard to imagine any issue in the environmental area having greater

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[2] *Hearings Before the Subcomm. on Clean Air and Nuclear Regulation of the Senate Comm. on Environment and Public Works*, 103d Cong., 2d Sess. (April 14, 1994) (testimony of Robert Sussman, EPA Deputy Administrator).

'economic and political significance' than regulation of activities that might lead to global climate change."[3]

The briefing in this case illustrates the dramatic nature of claimed global climate change damages. For instance, relying on out-of-context statements from various scientific reports, various *amici* here warn of unprecedented temperature increases, polar ice cap melting, rising sea levels inundating coastal communities, killer storms combined with devastating drought, huge losses of species, epidemic diseases, and the like. *See Amici Curiae* briefs of Climate Scientists, North Coast Rivers Alliance, *et al.*, and Wildlife Conservation Interests. These assertions mirror similar statements often made by various members of the Petitioners group.[4]

The claim that there is a scientific "consensus" on the likely dire consequences of continued GHG emissions is vigorously contested by many in the scientific community. The Court is referred to the November 29, 1999 comments filed with EPA in this proceeding by the Working Group to Oppose Expanded EPA Authority containing a detailed summary of the state of the science. Additionally, EPA, in its denial of the underlying Petition for Rulemaking, concluded that the scientific consensus claimed by Petitioners does not exist and that considerable uncertainty remains on key scientific questions. The lead opinion below rejected Petitioners' contention that EPA's conclusions in this regard are arbitrary. *Massachusetts v. EPA*, 415 F.3d 50, 57-58

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[3] *Control of Emissions from New Highway Vehicles and Engines*, 68 Fed. Reg. 52,922, 52,928 (Sept. 8, 2003).

[4] For instance, Petitioner NRDC's website warns of "dangerous consequences: drought, disease, floods, lost ecosystems . . . sweltering heat to rising seas . . . [t]he polar ice cap is shrinking fast." Nrdc.com, Global Warming, http://www.nrdc.org/global warming/default.asp.

(D.C. Cir. 2005). Citing the National Research Council ("NRC") report *Climate Change Science: An Analysis of Some of the Key Questions* (2001), EPA said:

> As the NRC noted in its report, concentrations of GHGs are increasing in the atmosphere as a result of human activities (pp. 9-12). It also noted that "[a] diverse array of evidence points to a warming of global surface air temperatures" (p. 16). The report goes on to state, however, that "[b]ecause of the large and still uncertain level of natural variability inherent in the climate record and the uncertainties in the time histories of the various forcing agents (and particularly aerosols), a causal linkage between the buildup of greenhouse gases in the atmosphere and the observed climate changes during the 20th century cannot be unequivocally established."

68 Fed. Reg. at 52,930.

Noting "[t]he science of climate change is extraordinarily complex and still evolving," EPA listed the numerous areas of continuing uncertainty identified by the NRC. According to EPA, "these uncertainties limit our ability to assess each of these factors and to separate out those changes resulting from natural variability from those that are directly the result of increases in anthropogenic GHGs." *Id.*

The economic side of the issue prompts equal controversy, because significantly reducing GHG emissions would be an extraordinary societal undertaking. CO_2, the principal human-produced GHG, is the unavoidable by-product of combusting fossil fuels, and fossil fuels are, by

far, the largest source (70 percent) of energy in America. *Id.* at 52,928. As the Intergovernmental Panel on Climate Change ("IPCC"), a source on which Petitioners rely in their brief, has noted, "[e]missions of GHGs are associated with an extraordinary array of human activities." IPCC, *Climate Change 2001: Mitigation* ("IPCC 2001"), at 608, *available at* http://www.ipcc.ch/. The United States Energy Information Administration ("EIA") reached the same conclusion: "there are a vast number of entities that emit carbon – homes, factories, vehicles, commercial facilities, and other agricultural resources unlike [for instance] the relatively few electricity generators covered by the SO_2 reduction program in the first phase." *Hearings Before the Senate Comm. on Energy and Natural Resources*, 106th Cong., 1st Sess. (March 25, 1999) (testimony of Jay Hakes, EIA Administrator). According to EPA, "[v]irtually every sector of the U.S. economy is either directly or indirectly a source of GHG emissions." 68 Fed. Reg. at 52,928. Because significantly controlling carbon emissions would entail fundamental changes to our economy and the way we live, a variety of authorities have concluded that the cost of such controls would be massive.[5]

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[5] With respect to the cost of complying with the Kyoto Protocol, *see* Wharton Economic Forecasting Associates, Inc., *Global Warming: The High Cost of the Kyoto Protocol, National and State Impacts*, 1998 (loss of 2.4 million jobs; annual loss of $300 billion in U.S. GDP). A study by Stephen Brown, senior economist at the Federal Reserve Board, determined that in order to meet the emissions cuts of Kyoto, U.S. domestic consumption would be reduced by 25 percent, the equivalent of stopping all highway, rail, air and sea traffic permanently. Both documents are cited and discussed in WLF's comments in the record of the EPA proceedings below. *See* November 29, 1999 comments filed by Working Group to Oppose Expanded EPA Authority in the record of this case.

Global climate change also differs fundamentally from other energy and environmental issues the U.S. faces. According to the IPCC, "[t]he global nature of the problem . . . implies that the full breadth of human social structures is encompassed." IPCC 2001, at 607. The IPCC notes:

> A combination of several features lends the climate problem its uniqueness. They include public good issues arising from the concentration of GHGs in the atmosphere that requires collective global action, the multiplicity of decision makers ranging from global down to the micro level of firms and individuals, and the heterogeneity of emissions and their consequences around the world. Moreover, the long-term nature of climate change originates from the fact that it is the concentration of GHGs that matters rather than their annual emission and this feature raises the thorny issues of intergenerational transfers of wealth and environmental goods and bads. Next, human activities associated with climate change are widespread, which makes narrowly defined technological solutions impossible, and the interactions of climate policy with broad socioeconomic policies are strong. Finally large uncertainties or in some areas even ignorance characterize many aspects of the problem and require a risk management approach to be adopted in all [decision-making frameworks] that deal with climate change.

Id. at 66.

For these reasons, potential global climate change has been a prominent feature of public discourse and policy debate for many years. The matter assumed central importance with widely reported Congressional testimony by NASA scientist James Hansen in 1988 as to a potentially runaway greenhouse effect, *Hearings Before the Senate Comm. on Energy and Natural Resources*, 100th Cong, 2d Sess. 39 (1988), and the formation that year of the IPCC. To date, global climate change has probably been the subject of more than two hundred hearings and briefings before various congressional committees. Regulatory and non-regulatory legislation on the subject has been introduced in Congress yearly since the late 1980s. It is a topic debated in the last three presidential elections, and was raised in the debates between President Bush and Senator Kerry. Commission on Public Debates, October 8, 2004 Debate Transcript. Global climate change is now a widely discussed topic in books,[6] magazines,[7] the internet[8] and even the movies.[9]

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[6] The term "global warming" yields 19,283 hits in a search of books on Amazon.com (Oct. 13, 2006).

[7] Based on a search of the Nexis Mega news file, 880 articles were published with the term "global warming" in their titles in the last thirty days (Oct. 16, 2006).

[8] The term "global warming" yields about 50,200,000 hits on Google (Oct. 13, 2006).

[9] *See An Inconvenient Truth* (Paramount Classics and Participant Productions 2006), a highly publicized documentary still in theaters. The film *The Day After Tomorrow* (20th Century Fox 2004) dramatizing sudden climate change was the fifth highest box office film of 2004. boxofficereport.com, Http://www.box officereport.com (last visited Oct. 18, 2006).

B. Where the Issue Stands Today.

Given the prominence of the global warming issue to date, there ought to be no dispute as to where the debate stands today in terms of Congressional action. The record of Congressional action on global climate change is detailed in Respondents' brief. As shown by Respondents, Congress has consistently rejected proposals to require or even authorize mandatory controls on GHG emissions, most recently in the current Congress. *See, e.g.*, 151 CONG. REC. S7029 (daily ed. June 23, 2005) (Senate rejection of S.A. 826, the so-called McCain-Lieberman bill). Instead, Congress has enacted several statutes mandating scientific research and calling for negotiations to develop an international framework for addressing climate change globally.[10]

These international negotiations have not resulted in the United States agreeing to GHG emission reductions. International negotiations first were mandated by Congress almost two decades ago in the Global Climate Protection Act of 1987. In 1992, President George H. W. Bush signed, and the Senate approved, the United Nations Framework Convention on Climate Change ("UNFCCC"), which brought together a coalition of countries for a coordinated approach to climate change. United Nations Framework Convention on Climate Change, May 9, 1992, S. TREATY DOC No. 102-38 (1992), 1771 U.N.T.S. 107.

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[10] *See* National Climate Program Act of 1978, 15 U.S.C. §§ 2901-2908, *et seq.*; section 711 of Energy Security Act of 1980, Pub. L. No. 96-294; Global Climate Protection Act of 1987, 15 U.S.C. § 2901 note; Global Change Research Act of 1990, 15 U.S.C. §§ 2931-2938; Title XXIV of the Food and Agriculture Act of 1990, Pub. L. No. 101-624, § 2401; Title XVI of the Energy Policy Act of 1992, Pub. L. No. 102-486.

The UNFCCC did not mandate emission reductions by the United States or any other countries. Instead, the "shared understanding" of the Executive Branch and the Senate when the Senate gave its advice and consent to ratification was that the UNFCCC did not impose "legally binding targets and timetables for reducing emissions of greenhouse gases." S. EXEC. REP. NO. 102-55, at 14 (1992).

Nevertheless, the United States has been actively involved in international activities under the UNFCCC to address global climate change. Negotiations led to the Kyoto Protocol in December 1997, which called for mandatory GHG emissions reductions by developed nations. Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 11, 1997, 37 I.L.M. 22. In a resolution addressing the Protocol, the Senate formally expressed misgivings over the prospect that the economic burdens of GHG reductions would be shouldered exclusively by developed nations, S. Res. 98, 105th Cong. (1997) (resolving by vote of 95-0 to urge the President not to sign any agreement that would result in serious harm to the economy or that did not include commitments regarding GHG emissions by developing nations). Although President Clinton signed the Protocol, he did not present it to the Senate for advice and consent to ratification. Thereafter, Congress enacted annual legislation affirmatively barring EPA from implementing the Protocol. *See* Pub. L. No. 105-276, 112 Stat. 2461, 2496 (1998); Pub. L. No. 106-74, 113 Stat. 1047, 1080 (1999); Pub. L. No. 106-377, 114 Stat. 1141, 1441A-41 (2000).

At present, the global climate change issue remains highly controversial and a matter of intense public debate. Nevertheless, the fact that the United States has not ratified the Kyoto Protocol or enacted legislation mandating GHG emission controls means that, to date, our country has affirmatively elected not to require such controls.

II. CONTRARY TO PETITIONERS' CLAIMS, THIS CASE IS ABOUT CONSIDERABLY MORE THAN JUST VEHICLE TAILPIPE EMISSIONS.

Petitioners seek to minimize the importance of this case by characterizing it as concerning only GHG emissions from new motor vehicles. Pet'rs Brief at 28. In reality, the determination they seek, that EPA must regulate GHG emissions under that section, could trigger a massive GHG regulatory program because it could require that EPA adopt regulations affecting virtually any source that emits GHGs in non-trivial amounts. This is because, as Petitioners recognize, the triggering language they rely on in CAA § 202(a) ("emission of any air pollutant ... which in his [the EPA Administrator's] judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare") is identical to triggering language for a host of other CAA regulatory programs. Pet'rs Brief at 35 ("...the trigger for much of the regulatory action that occurs under the Act is the endangerment of public health or welfare"). Indeed, a lawsuit seeking to compel EPA to set GHG New Source Performance Standards for new or modified stationary sources already has been filed and was stayed pending the outcome of the Court's decision here. *See New York v. EPA*, No. 06-1131 (D.C. Cir.), *per curiam* order of Court of Appeals (Sept. 13, 2006).

The most far-reaching regulatory program that could result if the Court were to accept Petitioners' reading of the CAA is promulgation of a National Ambient Air Quality Standard ("NAAQS") for CO_2. Petitioners claim that a CO_2 NAAQS would not necessarily be required under their reading of the CAA because the endangerment finding is only one of three findings required to trigger promulgation of a NAAQS under CAA § 108(a), 42 U.S.C. § 7408(a). Pet'rs

Brief at 28-29. But Petitioners do not contest that the second finding (presence of the pollutant in the ambient air resulting from "numerous or diverse mobile or stationary sources") would be purely ministerial for CO_2. And while they seem to suggest that the third finding (the Administrator "plans to issue air quality criteria under this section") might leave discretion in the Administrator to decline to issue NAAQS for CO_2, they do not actually take that position. Pet'rs Brief at 29. Assuming the Administrator made the first two findings, it is hard to understand how he could then decide not to issue air quality criteria initiating the NAAQS-setting process.

A NAAQS program for CO_2 would be completely unworkable. Despite Petitioners' attempt in a footnote to argue that CO_2 NAAQS attainment issues would be no different than attainment issues for other NAAQS that are affected by international emissions, *id* at 29 n. 19, CO_2 attainment issues in fact would be far different than those for any other pollutant. Unlike other pollutants subject to NAAQS, CO_2 circulates and is well-mixed in the global atmosphere. Hence, a ton of CO_2 emitted in, for instance, Bangladesh, has the same effect on concentrations over Boston as a ton emitted in Boston. Since the United States emits only about 25 percent of total global anthropogenic CO_2 emissions, and since this percentage is projected to decline in the future as the Third World continues to develop, there is nothing any state or group of states can do to affect CO_2 concentrations within their borders. As a result, as EPA found, the entire NAAQS program – including the establishment of NAAQS, the designation of attainment and nonattainment areas, the submission of State Implementation Plans, and the regulatory apparatus for maintaining attainment areas and bringing nonattainment areas into compliance – would be a gigantic exercise in futility for CO_2. 68 Fed. Reg. at 52,926-27. *Cf. Huffman v. Western Nuclear, Inc.*, 486 U.S. 663, 673 (1988) (Congress should

not be presumed to provide regulatory authority to an agency "to impose restrictions that [are] somehow calculated to serve [an] unattainable goal").

Despite its futility, a CO_2 NAAQS program would significantly affect almost every aspect of the American economy. As this Court stated, "[t]he NAAQS . . . are the engine that drives nearly all of Title I of the CAA . . . ." *Whitman*, 531 U.S. at 468. Suppose on the one hand that the CO_2 NAAQS is set at a level below current ambient concentrations, with the result that the entire United States would be a non-attainment area. Every state would then be required to submit a nonattainment plan demonstrating the control measures it intends to adopt to bring the state into attainment by a date certain. CAA § 172, 42 U.S.C. § 7502, and particularly CAA § 172(c)(6), 42 U.S.C. § 7502(c)(6). Despite the fact that the states would be powerless to attain the NAAQS, they would face the loss of federal highway funding by failing to do so. CAA § 179, 42 U.S.C. § 7509. Nonattainment across the United States would also preclude the construction or modification anywhere in the country of major stationary sources, such as manufacturing plants, electric generating plants, and other industrial facilities. Under CAA § 173(a)(1), 42 U.S.C. § 7503(a)(1), major stationary sources cannot be built unless they obtain sufficient offsets to ensure that that the nonattainment area makes reasonable further progress towards attainment. This of course would be a practical impossibility for a CO_2 NAAQS because, with every nonattainment area in the country required to make actual emission reductions, no offsets would be available.

Suppose on the other hand that the CO_2 NAAQS is set at a level below current ambient concentrations and therefore no state is in nonattainment. Nevertheless, every state would be required to submit state implementation plans setting forth measures ensuring continued achievement of the

standard. CAA § 110(a), 42 U.S.C. § 7410(a). Presumably, this would mean that the states would be required to offset the global growth in emissions, again a practical impossibility.

In sum, Petitioners are more than a little disingenuous in contending that the relief they seek is limited to motor vehicles and therefore would not trigger massive consequences throughout the economy. In reality, if EPA has authority and an obligation to regulate GHGs under Title II, it has the same authority and obligation to do so under Title I. Regulation under Title I would necessarily result in a huge regulatory program, as EPA and the states struggled with the impossible task of attaining or maintaining the NAAQS. *Train v. NRDC*, 421 U.S. 60, 86 (1974) ("Congress intended to impose national ambient air standards to be attained within a specific period of time."); *Union Elec. v. EPA*, 427 U.S. 246, 249-50 (1975) (CAA is designed to "guarantee prompt attainment and maintenance of specific air quality standards.").

III. CONGRESS CANNOT BE UNDERSTOOD TO HAVE AUTHORIZED EPA TO REGULATE ON A SUBJECT OF SUCH OVERRIDING SOCIETAL IMPORTANCE AS GLOBAL CLIMATE CHANGE WITHOUT HAVING CLEARLY AND SPECIFICALLY EXPRESSED ITS INTENTION TO DO SO.

Given the history of the global climate change debate in the United States, Petitioners' contention that there has been latent authority in the CAA since 1970 to adopt a massive GHG control program is not credible. It seems to be Petitioners' view that, despite wide public discourse of the issue for many years, the regulatory authority GHG advocates have loudly but unsuccessfully called for, in fact existed all along lying dormant and unnoticed until recently

discovered. Indeed, it seems to be Petitioners' view that this long-sought regulatory authority was hiding in plain sight in the CAA, a statute minutely dissected through the years by legislators and lawyers, both in the comprehensive CAA amendments of 1977 and 1990 and in seemingly endless litigation in this and other courts. However, it is implausible in the extreme that the GHG regulatory authority that Petitioners now maintain is "straightforward" on the face of the CAA, Pet'rs Brief at 2, was overlooked by so many for so long. In fact, when asked by Congress for a complete list of policy options for addressing global climate change, EPA in 1990 produced a comprehensive report that nowhere mentioned pre-existing CAA authority to regulate GHG emissions for climate change purposes. EPA, *Policy Options for Stabilizing Global Climate Change, Final Report to Congress*, Office of Policy, Planning, and Evaluation, PM221 (1990).

Equally implausible is the legislative mechanism Petitioners claim as the source of this far-reaching but, until recently, overlooked authority. Petitioners claim that Congress in 1970 authorized EPA to restrict GHG emissions simply by redesigning the CAA § 302(h), 42 U.S.C. § 7602(h), list of "welfare" effects to include effects on "climate." Pet'rs Brief at 15. *See also* CAA § 302(h), *reprinted in A Legislative History of the Clean Air Act Amendments of 1970*, 93d Cong., 2d Sess. (Comm. Print 1974). Congress, however, when it added this language, did not evince any understanding that, by doing so, it was authorizing the massive regulatory program Petitioners now seek to mandate.[11] There was no debate in Congress in 1970

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[11] Moreover, there is no textual basis to assume that Congress in 1970 necessarily understood the term "climate" to refer to a global climatological phenomenon such as global climate change, as opposed to local climate conditions affected by local pollutant emissions. *See* Webster's Seventh New Collegiate Dictionary (1969) ("Climate" is "the average course or condition of the

surrounding the new wording; no GHG or climate program enacted into the CAA at the time or thereafter to accompany the new wording; and no explanation by Congress of its intent in amending the CAA § 302(h) language. Surely, to quote Justice Stevens in another context, "[i]f Congress had intended such a significant change . . ., some indication of this purpose would almost certainly have found its way into the legislative history." *Connecticut Nat'l Bank v. Germain*, 503 U.S. 249, 255 (1992) (Stevens, J., concurring).

Indeed, nowhere in the mammoth text of the CAA, including CAA § 202(a), is there any explicit grant of authority to regulate GHGs or CO_2. The term "carbon dioxide" is mentioned exactly *one* time in the entire codified version of the Act, in a non-regulatory provision mandating research and study. CAA § 103(g)(l), 42 U.S.C. § 7403(g)(1). *See also*, the reference to CO_2 in CAA § 821 requiring "monitoring" rather than regulation.[12] The term "global warming" is likewise mentioned but once in the Act, in CAA § 602(e), 42 U.S.C. § 7671a, directing the Administrator to examine the global warming potential of certain listed substances that contribute to stratospheric ozone depletion. Such direction, however, is accompanied by the admonition that it "shall not be construed to be the basis of any additional regulation under the [CAA]." By contrast, at this point in time, more than thirty years into implementation of the modem CAA as enacted in 1970, *every* air pollutant that EPA regulates for mobile sources under CAA § 202(a) is subject to a specific program tailored for the control of such pollutant under CAA §§ 202(g)-(i), 42 U.S.C. § 7521. The statute also lists literally hundreds of other pollutants designated for control. *See* CAA Title 1, Part

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weather *at a place* over a period of years as exhibited by temperature, wind velocity, and precipitation." (emphasis added)).

[12] Section 821 is uncodified and appears as a note to CAA § 412, 42 U.S.C. § 7651k.

D, 42 U.S.C. §§ 7501-7509a, for specific regulatory requirements for six listed criteria pollutants; CAA § 112, 42 U.S.C. § 7412, establishing a detailed regulatory scheme for 190 listed hazardous air pollutants; and CAA Title VI, 42 U.S.C. §§ 7671-7671q, providing a regulatory scheme for 53 ozone-depleting substances.

As Justice Frankfurter observed, in interpreting a statute, "[o]ne must . . . listen attentively to what it does not say." Felix Frankfurter, *Some Reflections on the Reading of Statutes*, 47 COLUM. L. REV. 527, 536 (1947), *quoted in Connecticut Nat'l Bank*, 503 U.S. at 255 (Stevens, J., concurring). What one hears when one listens to the CAA for an expression of Congressional intent to regulate on a matter of such significance as global climate change is nothing more than the silence of the "watchdog [that] did not bark in the night." *Harrison v. PPG Industries, Inc.*, 446 U.S. 578, 602 (1980) (Rehnquist, J., dissenting, *quoted in Chisom v. Roemer*, 501 U.S. 380, 396 n.23 (1991).

Under basic principles of administrative law, the 1970 legislative language on which Petitioners rely is too thin a reed to support a GHG regulatory program. Legislative delegations of authority to administrative agencies into new subject areas must be made clearly, and the more important the issue, the clearer the delegation should be. *MCI Telecomm. Corp. v. AT&T Co.*, 512 U.S. 218, 231-232 (1994); *see also* Ernest Gellhorn and Paul Verkuil, *Controlling Chevron-Based Delegations*, 20 CARDOZO L. REV. 989, 1008 (1999) ("The more significant the question and the greater the impact the expansion of the agency's jurisdiction is likely to have, the greater the likelihood that Congress did not intend implicitly to delegate that determination to an agency."). As the Supreme Court said of a legislative delegation in an area of considerably less national and international import than global climate change, had Congress intended to legislate in an important public

policy area, "it would have done so in clear and unequivocal terms," as it had in other provisions of the legislation. *Arizona v. California*, 373 U.S. 546, 581 (1962). *See also Adams Fruit Co. v. Barrett*, 494 U.S. 638, 644 (1990) ("[h]ad Congress intended to limit further the availability of AWPA relief based on the adequacy of state workers' compensation remedies, it would have made that purpose clear. . . ."); *Connecticut Nat'l Bank*, 503 U.S. at 255 (Stevens, J., concurring). Similarly, as this Court has said, in cases involving assertions of agency power into new arenas, "courts should perform a close and searching analysis of congressional intent, remaining skeptical of the proposition that Congress did not speak to such a fundamental issue." *ACLU v. FCC*, 823 F.2d 1554, 1567 n.32 (D.C. Cir. 1987), *cert. denied*, 485 U.S. 959 (1988).

The reason courts demand clear legislative authorizations for the extension of agency authority into new arenas derives from the proper role of administrative agencies in our system of government. As Justice Rehnquist remarked in a similar context, Congress, not an agency, is "the governmental body best suited and most obligated to make the choice confronting us in this litigation." *Indus. Union Dept., AFL-CIO v. Am. Petroleum Inst.*, 448 U.S. 607, 672 (1980) (Rehnquist, J., concurring in the judgment). Justice Brennan likewise concluded that "Congress has the resources and the power to inform itself, and is the appropriate forum where the conflicting pros and cons should have been presented and considered." *United States v. Robel*, 389 U.S. 258, 276 (1967) (Brennan, J., concurring in the result). According to Justice Brennan, "[f]ormulation of policy is a legislature's primary responsibility, entrusted to it by the electorate . . . 'without explicit action by lawmakers, decisions of great constitutional import and effect would be relegated by default to administrators who, under our system of government are not endowed with authority to decide them.'" *Id.* An agency that seeks to regulate in a new arena

of social or economic activity without a plain and explicit statutory authorization to do so usurps the constitutional role of Congress to promulgate policy in the first instance. John J. Manning, *The Nondelegation Doctrine as a Canon of Avoidance*, 2000 SUP. CT. REV. 223, 276-77 (2000) ("If Congress has addressed a subject, but has done so in a limited way, this fact itself may suggest that Congress has gone as far as the enacting coalition wished to, on the subject in question. If the Court permitted ... [the agency] to go further under ... [the Act's] general authority, such action might disturb the more precise policies adopted by Congress through bicameralism and presentment." footnotes omitted).

These principles have special application to the potentially significant restrictions on how this country uses energy that are involved with the global climate change issue. If, as the IPPC says, measures addressing global climate change must encompass the "full breadth of human social structures,"[13] it must be Congress, not EPA, that decides the matter.

In this case, the actions by Congress, after long debate, to address potential global climate change through scientific research and international negotiations, and to resist calls for mandatory regulation of GHG emissions, reflect a political and policy decision not to regulate, which carefully balances economic interests, scientific uncertainties, and energy/environmental concerns. For better or worse, depending on one's view of the issue, where Congress has so far chosen to stand marks the place where "opposing social and political forces have come to rest." *Chrysler v. Brown*, 441 U.S. 281, 313 (1979). EPA acted properly in this case in not asserting power it does not have to upset Congress' decision.

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[13] IPCC 2001, at 607.

CONCLUSION

For the foregoing reasons, the judgment of the court of appeals should be affirmed.

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COMMONWEALTH OF MASSACHUSETTS, et al.,

Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, et al.,

Respondents.

On A Writ Of Certiorari To The United States Court Of Appeals For The District Of Columbia Circuit

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42 U.S.C. § 7521 4

42 U.S.C. § 7602 4

OTHER AUTHORITIES

The American Heritage Dictionary of the English Language (4th ed. 2000) 1

James Boyd & Spencer Banzhaf, Resources for the Future, *What Are Ecosystem Services? The Need for Standardized Environmental Accounting Units* (2006) 28

David D. Breshears *et al.*, *Regional Vegetation Die-off in Response to Global-Change-Type Drought*, 102 Proceedings of the Nat'l Academy of Sciences (Oct. 18, 2005) 22

Edward J. Brook, *Atmospheric Science: Tiny Bubbles Tell All*, 310 Sci. 1285 (2005) 6

R.W. Buddemeier *et al.*, Pew Ctr. on Global Climate Change, *Coral Reefs & Global Climate Change: Potential Contributions of Climate Change to Stresses on Coral Reef Ecosystems* (2004) 24

Virginia Burkett & Jon Kusler, *Climate Change: Potential Impacts and Interactions in Wetlands of the United States*, 36 J. of the Am. Water Res. Ass'n 313 (2000) 16

Center for Health and the Global Env't, Harvard Med. Sch., *Climate Change Futures: Health, Ecological and Economic Dimensions* (2005) 21, 27

TABLE OF AUTHORITIES – Continued

Page

Gretchen C. Daily *et al., Ecosystem Services: Benefits Supplied to Human Societies by Natural Ecosystems*, 2 Issues in Ecology (1997) 28

Gretchen C. Daily, *Introduction: What Are Ecosystem Services?, in Nature's Services: Societal Dependence on Natural Ecosystems* (Gretchen C. Daily ed., 1997) 28, 29

Simon D. Donner *et al., Global Assessment of Coral Bleaching and Required Rates of Adaptation Under Climate Change*, 11 Global Change Biology 2251 (2005) 24

Julian A. Dowdeswell, *The Greenland Ice Sheet and Global Sea-Level Rise,* 311 Sci. 963 (2006) 14

Joseph Ebersole *et al., Thermal Heterogeneity, Stream Channel Morphology and Salmonid Abundance in Northeast Oregon Streams,* 60 Can. J. of Fisheries & Aquatic Sci. 1266 (2003) 19

P.R. Epstein, Center for Health & the Global Envt., Harvard Med. Sch., *Marine Ecosystems: Emerging Diseases as Indicators of Change* (1998) 21

Tim Flannery, *The Weather Makers* (2005) ..... *passim*

Habiba Gitay *et al.*, Intergovernmental Panel on Climate Change, *Climate Change and Biodiversity, IPCC Technical Paper V* (2002) ..... *passim*

Susan Joy Hassol *et al.*, Arctic Climate Impact Assessment, *Impacts of a Warming Arctic* (2004) 16, 17, 18

C.D. Harvell *et al., Emerging Marine Diseases – Climate Links and Anthropogenic Factors*, 285 Sci. 1507 (1999) 21

TABLE OF AUTHORITIES – Continued

Page

Doug Inkley *et al.*, The Wildlife Society, *Global Climate Change and Wildlife in North America* (2004) 7, 14, 20

Intergovernmental Panel on Climate Change, *Climate Change 2001: Synthesis Report* (2001) 6

Intergovernmental Panel on Climate Change, *Summary for Policymakers: A Report of Working Group I of the IPCC* (2001) 6, 7, 13

W. Carter Johnson *et al.*, *Vulnerability of Northern Prairie Wetlands to Climate Change*, 55 BioSci. 863 (2005) 9

Joint Science Academies' Statement: Global Response to Climate Change (June 7, 2005) 6

Susan Herrod Julius, U.S. EPA Global Change Research Program, *What Are the Potential Impacts of Climate Change on Fresh Water Recreational Fishing Opportunities in the U.S.?*, Presentation to the Water Ecology and Climate Change Workshop (June 15, 2001) 26

James Kardouni & Nicoleta Cristea, *Quality Assurance Project Plan. Snoqualmie River Temperature Total Maximum Daily Load,* Wash. Dep't of Ecology, Pub. No. 06-03-106 (July 2006) 19

Kirkman O'Neal, Defenders of Wildlife & Natural Res. Def. Council, *Effects of Global Warming on Trout and Salmon in U.S. Streams* (2002) 19

Joan A. Kleypas *et al.*, NSF, NOAA & USGS, *Impacts of Ocean Acidification on Coral Reefs and Other Marine Calcifiers: A Guide for Future Research*, Report of a Workshop on April 18-20, 2005, Sponsored by NSF, NOAA & USGS (2006) 25

TABLE OF AUTHORITIES – Continued

Page

Robert J. Livingston, *Projected Changes in Estuarine Conditions Based on Models of Long-Term Atmospheric Alteration, in* U.S. EPA, *The Potential Effects of Global Climate Change on the United States: Report to Congress* (Joel B. Smith & Dennis Tirpak eds., 1989) 10

Thomas E. Lovejoy & Lee Hannah, *Climate Change and Biodiversity* (2005) 2, 10, 11, 12, 14

Jay R. Malcolm & Louis F. Pitelka, Pew Ctr. on Global Climate Change, *Ecosystems & Global Climate Change: A Review of the Potential Impacts on U.S. Terrestrial Ecosystems and Biodiversity* (2000) 28

John A. McGowan *et al.*, *The Biological Response to the 1977 Regime Shift in the California Current*, 50 Deep-Sea Research II 2567-82 (2003) 25

Donald McKenzie *et al.*, *Climactic Change, Wildfire, and Conservation*, 18 Conservation Biology 890 (2004) 23

Joseph R. Mendelson *et al.*, *Confronting Amphibian Declines and Extinctions*, 313 Sci. 48 (2006) 21

G. Tyler Miller, Jr., *Environmental Science: Sustaining the Earth* (1991) 1

Impacts of Climate Change: Hearing Before the Senate Comm. on Commerce, Sci. & Transp., 108th Cong. (2004) (testimony of Dr. Phillip W. Mote) 18

NASA, *Arctic Sea Ice Continues to Decline, Arctic Temperatures Continue to Rise in 2005* (Sept. 28, 2005, http://www.nasa.gov/centers/goddard/news/topstory/2005/arcticice_decline.html) 23

TABLE OF AUTHORITIES – Continued

Page

NASA, *Visible Earth: A Catalog of NASA Images and Animations of Our Home Planet* (2006, http://visibleearth.nasa.gov) 18

National Wildlife Fed'n *et al.*, *An Unfavorable Tide: Global Warming, Coastal Habitats and Sportfishing in Florida* (2006) 15

National Research Council, *Climate Change Science: An Analysis of Some Key Questions* (2001) 7

Outdoor Industry Found., *The Active Outdoor Recreation Economy* (2006) 26

Camille Parmesan & Gary Yohe, *A Globally Coherent Fingerprint of Climate Change Impacts Across Natural Systems*, 421 Nature 37 (2003) 8, 11

Camille Parmesan & Hector Galbraith, Pew Ctr. on Global Climate Change, *Observed Impacts of Global Climate Change in the U.S.* (2004) 11

Pew Ctr. on Global Climate Change, *Aquatic Ecosystems and Global Climate Change* (2002) 19

Pew Ctr. on Global Climate Change, *A Synthesis of Potential Climate Change Impacts on the U.S.* (2004) 7, 8

Marjorie L. Reaka-Kudla, *The Global Biodiversity of Coral Reefs: A Comparison with Rain Forests, in Biodiversity II: Understanding and Protecting Our Biological Resources* (M.L. Reaka-Kudla *et al.*, eds.1997) 24

Terry L. Root *et al.*, *Fingerprints of Global Warming on Wild Animals and Plants*, 421 Nature 57 (2003) 8, 9, 12

TABLE OF AUTHORITIES – Continued

Page

Terry L. Root & Stephen H. Schneider, *Climate Change: Overview and Implications for Wildlife, in Wildlife Responses to Climate Change: North American Case Studies* (Stephen H. Schneider & Terry L. Root eds., 2002) 9

James Salzman, *Creating Markets for Ecosystem Services: Notes from the Field*, 80 N.Y.U. L. Rev. 870 (2005) 28

Daniel Scott *et al.*, *Climate Change and Tourism and Recreation in North America: Exploring Regional Risks and Opportunities, in Tourism, Recreation and Climate Change* (C.M. Hall & J. Higham eds., 2005) 27

Lisa G. Sorensen *et al.*, *Potential Effects of Global Warming on Water Fowl Populations Breeding in the Northern Great Plains*, 40 Climatic Change 343-69 (1998) 9

Brian C. Spence *et al.*, ManTech Env. Research Serv., *An Ecosystem Approach to Salmonid Conservation*, TR-4501-96-6057 (1996) 19

Chris D. Thomas *et al.*, *Extinction Risk from Climate Change*, 427 Nature 145 (2004) 4, 7, 9

U.S. Fish & Wildlife Serv., *National Survey of Fishing, Hunting, and Wildlife-Associated Recreation* (2001) 26

U.S. Fish & Wildlife Serv., *North American Waterfowl Management Plan, Gulf Coast Joint Venture: Texas Mid-Coast Initiative* (2002) 16

TABLE OF AUTHORITIES – Continued

Page

U.S. Geological Serv., *Repeat Photography Project, Glacier National Park, MT, available at* http://nrmsc.usgs.gov/repeatphoto/download_info.htm (website last modified Mar. 15, 2006) 18

Marcel E. Visser & Leonard Holleman, *Warmer Springs Disrupt the Synchrony of Oak and Winter Moth Phrenology*, Proceedings of the Royal Society B. 268 (2001) 12

Gian-Reto Walther *et al.*, *Ecological Responses to Recent Climate Change*, 416 Nature 389 (2002) 8, 9, 10, 21

P.J. Webster *et al.*, *Changes in Tropical Cyclone Number, Duration and Intensity in a Warming Environment*, 309 Sci. 1844 (2005) 15

A.L. Westerling *et al.*, *Warming and Earlier Spring Increases Western U.S. Forest Wildfire Activity*, 313 Sci. 940 (2006) 23

Edward O. Wilson, *Biophilia* (1984) 30

World View of Global Warming, *Glaciers and Glacial Warming: Receding Glaciers* (2006, http://www.worldviewofglobalwarming.org/pages/glaciers.html) 13, 18

Erika Zavaleta & Jennifer L. Royval, *Climate Change and the Susceptibility of U.S. Ecosystems to Biological Invasions: Two Cases of Expected Range Expansion in Wildlife Responses to Climate Change* (Stephen H. Schneider & Terry L. Root eds., 2002) 20

Sergey A. Zimov *et al.*, *Permafrost and the Global Carbon Budget*, 312 Sci. 1613 (2006) 17

INTEREST OF AMICI CURIAE[1]

Amici organizations represent a substantial number of hunters, anglers, bird watchers, religious groups, zoos and aquariums, state wildlife agencies, professional societies of wildlife biologists and other wildlife conservationists.[2] Many amici, particularly the hunter, angler and bird watcher groups, rely on abundant wildlife and healthy ecosystems for recreation. Many amici, particularly the state wildlife agencies, professional societies and zoos and aquariums, have expertise in the scientific aspects of wildlife management, ecosystem conservation and the impacts of climate change on wildlife and ecosystems. Many amici, particularly the religious groups, have expertise in the ethical issues surrounding human-caused extinctions and other harmful effects of climate change. All amici depend on the services that healthy ecosystems provide, appreciate how the decline of wildlife and ecosystems harms the economy and quality of life in their communities and have a strong and demonstrated interest in conserving wildlife and ecosystems for future generations.

SUMMARY OF ARGUMENT

Climate change caused by greenhouse gas pollution is threatening the legacy of abundant wildlife and natural

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[1] Pursuant to S.Ct.R. 37.3(a) and 37.6, the undersigned represents that (1) all parties consented to the filing of this brief, (2) no counsel for any party authored this brief in whole or in part, and (3) no person or entity other than above-named amici curiae and their counsel made a monetary contribution to the preparation or submission of this brief.

[2] *See* Appendix (identifying amici organizations by category). The term "wildlife" is used here in its broadest sense to mean all wild animals and plants. *See The American Heritage Dictionary of the English Language* (4th ed. 2000). "Ecosystem" means a community of organisms, including wild animals and plants, interacting with one another and with the chemical and physical factors making up their environment. *See* G. Tyler Miller, Jr., *Environmental Science: Sustaining the Earth* A7 (1991).

beauty that Americans seek to bequeath to their children and grandchildren.[3] Abundant wildlife and healthy ecosystems are the foundation of our economy and the key to our quality of life. Billions of dollars of revenue are generated annually in the U.S. by hunting, angling and other wildlife-oriented recreation and by the numerous other industries, such as commercial fishing, pharmaceuticals and agriculture, that depend on wild animals and plants and healthy ecosystems. Natural habitats protect drinking water, provide food and medicine and buffer communities against floods and storms. Incalculable spiritual and aesthetic benefits are realized when families take time away from their busy lives to enjoy nature-based activities. Much of this is placed at risk due to the harmful effects of greenhouse gas pollution and resultant climate change on wildlife and ecosystems.

The Clean Air Act ("Act") requires the EPA to address this harm. Section 202(a)(1) of the Act states that if in the judgment of the EPA Administrator, "any air pollutant" from motor vehicles "cause[s] or contribute[s] to air pollution which may reasonably be anticipated to endanger public health or welfare," the EPA "shall" regulate that pollution. Under section 302(h), effects on "welfare" include effects on "climate" and "wildlife." Thus, the EPA has a duty to consider whether greenhouse gases may endanger the health and welfare of people by harming the climate and wildlife that people depend upon.

There is virtually no disagreement among scientists that greenhouse gas pollution harms climate and wildlife. The leading scientific societies from the United States and ten other nations have stated that the science on greenhouse gas pollution's effects on climate is now sufficiently clear to justify nations taking prompt action.

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[3] Greenhouse gases are air pollutants known to contribute to global climate change by trapping heat in the atmosphere. Thomas E. Lovejoy & Lee Hannah, *Climate Change and Biodiversity* 21 (2005).

The Intergovernmental Panel on Climate Change ("IPCC") has found that greenhouse gas pollution has already caused an increase of 1 degree Fahrenheit in average surface temperatures around the globe and that, unless such pollution is curtailed, average surface temperatures will increase between 2.5 to 10.4 degrees Fahrenheit in the coming century.

Scientific experts predict that such warming would devastate wildlife and ecosystems. Under mid-range climate warming scenarios, as many as one-third of species in some regions are likely to be committed to future extinction due to climate change over the next 50 years. Many treasured wildlife species in the U.S. are at serious risk, including waterfowl in the northern Great Plains, crabs and oysters in Apalachicola Bay, Florida, trout and salmon in the Pacific Northwest and polar bears in Alaska.

Effects of climate change on wildlife and ecosystems are already apparent. Even with the relatively low temperature increases experienced in the past century (in comparison with projected increases), wildlife species have already become extinct or have been extirpated from parts of their geographic range due to excessive temperatures. Sea level rise has accelerated, and hurricanes and typhoons have become more intense, harming coastal marshes that serve as nurseries for fish and provide buffers from storms. Sea ice has melted, leading to declines in at least one polar bear population. Snowpack on Western mountains has begun shrinking, creating dangerously low summer flows in salmon and trout streams. Pests have invaded forests, destroying millions of trees. Ocean waters have become warmer, contributing to a decline in coral reefs and increased disease in shellfish.

These and other harmful impacts of climate change on wildlife and ecosystems pose a serious threat to people. The United States is blessed with abundant natural resources. These resources have served as the backbone of many jobs and industries and have provided

food, medicines, flood protection and a host of other services. Wildlife species and ecosystems have also provided recreational opportunities and solace to millions of Americans. The EPA must act now to limit greenhouse gas pollution to conserve these precious resources for future generations.

ARGUMENT

I. EPA FAILED TO CONSIDER THE HARMFUL EFFECTS OF CLIMATE CHANGE ON WILDLIFE

Climate change caused by greenhouse gas pollution is one of the greatest threats to wildlife in the United States and around the globe.[4] Fortunately, the United States government has many tools with which to address greenhouse gas pollution and climate change. The Clean Air Act is one of the most important of these tools.

A. The Clean Air Act Explicitly Requires that EPA Consider Climate and Wildlife in Deciding Whether to Regulate Air Pollutants

Section 202(a)(1) of the Act states that if in the judgment of the EPA Administrator, "any air pollutant" from motor vehicles "cause[s] or contribute[s] to air pollution which may reasonably be anticipated to endanger public health or welfare," EPA "shall" regulate that pollution.[5] "Welfare" is defined by section 302(h) as including "effects on soils, water, crops, vegetation, manmade materials, animals, *wildlife,* weather, visibility *and climate*. . . ."[6]

Thus, under the Act, the EPA Administrator has both the authority and duty to set limits on air pollutants that

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[4] *See* Chris D. Thomas *et al., Extinction Risk from Climate Change*, 427 Nature 145, 147 (2004).

[5] 42 U.S.C. § 7521(a)(1).

[6] *Id.* § 7602(h) (emphasis added).

may endanger the climate or wildlife. In refusing to set limits on greenhouse gases, EPA violated its duty to consider the impacts of air pollutants on these critical elements of the natural environment.

B. EPA's Failure to Address Climate Change and its Impacts on Wildlife Cannot Be Justified on the Ground of Scientific Uncertainty

There is broad agreement among scientists – including those from the EPA itself – that climate change is already harming wildlife and ecosystems, that climate change will cause substantial additional harm in the future if not addressed and that a substantial reduction of greenhouse gas pollution is necessary to address this problem.[7] As each day passes without confronting this pollution, severe ecosystem disruption and widespread species extinction becomes more likely and more difficult and costly to forestall.

The leading scientific societies from the United States and ten other nations made this abundantly clear in a recently-issued joint statement:

> The scientific understanding of climate change is now sufficiently clear to justify nations taking prompt action. It is vital that all nations identify cost-effective steps that they can take now, to contribute to substantial and long-term reduction in net global greenhouse gas emissions.
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> * * *

[7] *See infra* Part II.

> Failure to implement significant reductions in net greenhouse gas emissions now, will make the job much harder in the future.[8]

Ecosystem disruption and species extinction harms all people by damaging the economy and otherwise reducing quality of life.[9] Amici, whose members are heavily engaged in the enjoyment and conservation of wildlife and habitats, are directly injured by the inaction of the EPA. The Clean Air Act mandates immediate action to prevent further endangerment of their health and welfare.

II. CLIMATE CHANGE IS DISRUPTING THE ECOSYSTEMS THAT SUSTAIN WILDLIFE AND PEOPLE

There is virtually no dispute within the scientific community that greenhouse gas pollution from the burning of fossil fuels (coal, natural gas and oil) is causing, and will continue to cause, global climate change.[10] The average global temperature has risen more than 1 degree Fahrenheit during the past century, and the concentration of carbon dioxide in the atmosphere is now higher than at any time during the past 650,000 years.[11] According to the National Research Council, in a report requested by the Bush Administration, this human-induced warming and its associated sea level rise are expected to continue

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[8] *Joint Science Academies' Statement: Global Response to Climate Change* (June 7, 2005) at 1, *available at* http://www.royalsoc.ac.uk/displaypagedoc.asp?id=20742.

[9] *See infra* Part III.

[10] *See* Intergovernmental Panel on Climate Change, *Climate Change 2001: Synthesis Report* 4-5 (2001) [hereinafter IPCC, *Synthesis Report 2001*].

[11] Intergovernmental Panel on Climate Change, *Summary for Policymakers: A Report of Working Group I of the IPCC* at 2, 7 (2001) [hereinafter IPCC, *Summary for Policymakers*]; Edward J. Brook, *Atmospheric Science: Tiny Bubbles Tell All*, 310 Sci. 1285-87 (2005).

through the 21st century.[12] Without sufficient action to reduce greenhouse gas pollution, scientists estimate that the average surface temperatures across the globe will increase between 2.5 to 10.4 degrees Fahrenheit in the coming century.[13]

The overall consequences of such climate change for wildlife and people would be disastrous.[14] Under mid-range climate warming scenarios, as many as one-third of species in some regions are likely to be "committed to future extinction" due to climate change over the next 50 years.[15] Such a massive loss of biological diversity would wreak havoc on the ecosystems that people depend upon for their livelihoods and quality of life. The following are some of the most striking examples of climate change's harmful impacts on wildlife and people.

A. Wildlife Faces Increased Risks of Extinction Due to Rising Surface Temperatures

Every wildlife species has a particular set of temperature conditions in which it has evolved and which it relies upon for its survival. For many species, the increases in surface temperatures forecasted for the coming decades will make current habitats unsuitable.[16] Unless they are

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[12] National Research Council, *Climate Change Science: An Analysis of Some Key Questions* 1 (2001).

[13] IPCC, *Summary for Policymakers*, *supra*, at 13.

[14] Although some species will probably benefit from warming trends, many of these will be invasive and harmful to people and native wildlife. *See* Doug Inkley, The Wildlife Society, *Global Climate Change and Wildlife* 8 (2004).

[15] Thomas *et al.*, *Extinction Risk from Climate Change*, *supra*, at 147.

[16] Pew Ctr. on Global Climate Change, *A Synthesis of Potential Climate Change Impacts on the U.S.* iii, 14-15 (2004).

able to move into new and more suitable habitats, they will face the threat of extinction.[17]

Scientists have studied the effects of the past century's temperature increases on wildlife to obtain clues about the changes to be expected in the coming decades. This research shows that even relatively small temperature increases will disrupt ecosystems and the ecological communities of plants and animals within those ecosystems.[18]

One key scientific finding is that the geographic ranges of numerous wildlife species around the world are shifting, either toward the poles or up mountain slopes, in concert with regional warming trends.[19] Since the mid-20th century, wildlife has moved toward the poles an average of four miles per decade and upslope an average of 20 feet per decade.[20]

This geographic shift does not mean that the species are adapting to climate change. In fact, many species are projected to lose habitats at the edge of the range nearest to the equator, or at the lowest elevations, without gaining habitats at the edge of the range nearest to the poles or at

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[17] *Id.* at 14.

[18] *See* Camille Parmesan & Gary Yohe, *A Globally Coherent Fingerprint of Climate Change Impacts Across Natural Systems*, 421 Nature 37, 42 (2003) (statistical review of historical observations of 1,700 species shows that climate change is causing a "clear pattern" of changes to species and is "an important driving force on natural systems") [hereinafter *A Globally Coherent Fingerprint*]; Terry L. Root *et al.*, *Fingerprints of Global Warming on Wild Animals and Plants*, 421 Nature 57-60 (2003) (meta-analysis of 143 studies reveals a "significant impact" of climate change on animal and plant populations); Gian-Reto Walther *et al.*, *Ecological Responses to Recent Climate Change*, 416 Nature, 389, 394 (2002) (review of extensive body of scientific studies shows that climate change is altering range, distribution and seasonal cycles of species and composition and dynamics of ecological communities).

[19] *A Globally Coherent Fingerprint, supra*, at 37.

[20] *Id.*

higher elevations.[21] This habitat loss increases the likelihood of extinction.

Among the reasons why many species will not be able to shift to new habitats in response to intolerable temperature conditions is because key resources (*e.g.*, food supply, appropriate soils) are not available there.[22] For example, scientists project that the prairie pothole region of the northern Great Plains, the most important breeding area for ducks in North America, will lose many of its unique wetlands if warming trends continue.[23] As suitable wetlands become unavailable, ducks may be displaced northward. However, wetlands to the north hold less water in the spring, and thus ducks moving there will have significantly reduced breeding potential.[24] The decline of ducks from the prairie pothole region would seriously harm hunters and bird watchers and the many businesses that serve these large numbers of wildlife enthusiasts.

Another reason many species will not be able to shift into new habitats is because of natural obstacles to

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[21] *See* Terry L. Root & Stephen H. Schneider, *Climate Change: Overview and Implications for Wildlife* 5-6 *in Wildlife Responses to Climate Change: North American Case Studies* (Stephen H. Schneider & Terry L. Root eds. 2002); Walther *et al.*, *Ecological Responses to Recent Climate Change*, *supra*, at 394.

[22] *See* Root *et al.*, *Fingerprints of Global Warming on Wild Animals and Plants*, *supra*, at 59. Similarly, species may not be able to shift because other species with which they are interconnected may fail to move in tandem, *id.*, and invasive species may limit their ability to persist in their new habitats. Thomas *et al.*, *Extinction Risk from Climate Change*, *supra*, at 147; Habiba Gitay *et al.*, Intergovernmental Panel on Climate Change, *Climate Change and Biodiversity*, *IPCC Technical Paper V* 32 (2002) [Hereinafter Gitay, *IPCC Technical Paper V*].

[23] W. Carter Johnson *et al.*, *Vulnerability of Northern Prairie Wetlands to Climate Change*, 55 BioSci. 863, 871 (2005).

[24] *See* Lisa G. Sorensen *et al.*, *Potential Effects of Global Warming on Water Fowl Populations Breeding in the Northern Great Plains*, 40 Climatic Change 343-69 (1998).

movement, such as large water bodies (which create barriers for terrestrial species) and coastlines (for marine and estuarine species).[25] A study of potential effects of increased warming in Apalachicola Bay, Florida, showed that important fishery species, including crabs, shrimp, oysters and flounder, might not be able to survive past this century due to their inability to move into more tolerable temperature conditions.[26] Apalachicola Bay has one of the largest commercial oyster fisheries in the world, and it is also renowned for saltwater recreational fishing. Increased water temperatures, combined with sea level rise, put this irreplaceable resource in jeopardy. In this way, climate change directly harms commercial fishermen, recreational fishermen, seafood lovers, tourists and the many businesses that serve these people.

The "most threatening aspect of climate change for biodiversity" is the role of habitat fragmentation in blocking wildlife movement.[27] As temperatures increase in current habitats, nearby highways, cities, subdivisions, farms and other kinds of human activity will greatly limit the ability of wildlife to move to habitats with more suitable temperature conditions.[28]

The Edith's checkerspot butterfly is an example of a species that is disappearing from parts of its range and edging closer to extinction due to the combined effects of climate change and habitat fragmentation. Three subspecies of this butterfly are already endangered due to habitat

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[25] *See* Camille Parmesan, *Biotic Response: Range and Abundance Changes*, *in* Lovejoy & Hannah, *supra*, at 52.

[26] Robert J. Livingston, *Projected Changes in Estuarine Conditions Based on Models of Long-Term Atmospheric Alteration*, *in* U.S. EPA, *The Potential Effects of Global Climate Change on the United States: Report to Congress* 339-40 (Joel B. Smith & Dennis Tirpak eds. 1989).

[27] Lee Hannah *et al.*, *Biodiversity and Climate Change in Context*, *in* Lovejoy & Hannah, *supra*, at 4.

[28] Walther *et al.*, *Ecological Responses to Recent Climate Change*, *supra*, at 394.

fragmentation.[29] Because increased temperatures are drying up the butterfly's host plant and because the butterfly cannot disperse to the north (it is blocked by human development), 80 percent of historical populations in the southern end of the species' range in California and Mexico have recently disappeared.[30]

With these extirpations, the Edith checkerspot butterfly's range has shifted northward by 55 miles and upward in elevation by 409 feet. Unfortunately, these losses have not been accompanied by gains in other parts of the species' range, where extirpations are also occurring, albeit at a slower pace.[31] For the Edith's checkerspot butterfly, a geographic shift does not mean that the species is adapting to climate change; it simply means that population declines have accelerated in parts of the species' range.[32]

Increased surface temperatures around the world are also causing alterations in the timing of seasonal activities of wildlife.[33] As with geographic shifts, these alterations appear across numerous taxonomic groups and geographic regions. Examples of spring events with altered timing include earlier breeding of birds, earlier arrivals of migrant birds in the spring, earlier appearance of butterflies, earlier breeding choruses and spawning in amphibians and earlier sprouting and flowering of plants.[34]

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[29] Camille Parmesan & Hector Galbraith, Pew Ctr. on Global Climate Change, *Observed Impacts of Global Climate Change in the U.S.* 24 (2004).

[30] *Id.*

[31] *Id.*

[32] *Id.*

[33] Terry L. Root & Lee Hughes, *Present and Future Phenological Changes in Wild Plants and Animals*, *in* Lovejoy & Hannah, *supra*, at 61-69.

[34] *Id.* at 63; *see also A Globally Coherent Fingerprint*, *supra*, at 38.

Over the course of the past half-century, the timing of these spring events has changed dramatically. In a meta-analysis of 64 studies, researchers found that in each of the last five decades, spring events in temperate zones took place an average of five days earlier than the decade before it.[35] The only explanation for these disturbing phenomena was climate change.[36]

Shifts in seasonal activities are problematic because species that normally interact with each other do not necessarily shift in unison.[37] When the seasonal activities of normally interacting species are out of synch, ecological communities can be torn apart, leading to numerous extirpations and extinctions.[38]

For example, the caterpillars of the winter moth, which rely solely on young oak leaves for food, now hatch earlier due to warming trends.[39] Unfortunately, the date on which oaks bear their first leaves has not changed significantly, so the caterpillars are now in decline due to lack of food.[40] A caterpillar's loss of food supply immediately affects the food web because, with far fewer caterpillars, birds have less prey.[41] This loss of prey could lead to the decline and extinction of one or more species of birds.

Once a species becomes extinct, it is gone forever. Such an irreversible loss reverberates throughout the

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[35] Root *et al.*, *Fingerprints of Global Warming on Wild Animals and Plants*, *supra*, at 59.

[36] *Id.*

[37] Root & Hughes, *Present and Future Phenological Changes in Wild Plants and Animals*, *in* Lovejoy & Hannah, *supra*, at 64.

[38] Tim Flannery, *The Weather Makers* 89 (2005).

[39] Marcel E. Visser & Leonard Holleman, *Warmer Springs Disrupt the Synchrony of Oak and Winter Moth Phrenology*, Proceedings of the Royal Society B. 268, 289-94 (2001).

[40] *Id.*

[41] *Id.*; *see also* Flannery, *supra*, at 89-90.

ecosystem and ultimately harms people. For example, a bird's extinction means the disappearance of key services that birds typically provide, such as pollination of plants, dispersal of seeds, and control of insects.[42] These are services that farmers, nurseries, gardeners and many others depend upon for their livelihoods and quality of life.

The best chance for preventing or minimizing such losses is to take prompt action to limit the greenhouse gas pollution that is causing the increased surface temperatures and resultant disruptions of wildlife and ecosystems.

B. Rising Sea Levels and Intensified Hurricanes and Typhoons Jeopardize Coastal Wildlife and Ecosystems

The aspect of climate change that poses the most dramatic threat to people and wildlife is the rapid melting of glaciers and the polar ice fields of Antarctica and Greenland.[43] Accompanying this melting is the thermal expansion of the oceans, also caused by increased surface temperatures (warmer water occupies more space). Together these phenomena are causing an accelerated rise in sea levels.[44] Average global sea levels rose 4 to 8 inches over the 20th century, and the IPCC projects an additional rise of 4 to 35 inches by 2100.[45] Recent scientific discoveries

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[42] *Id.*

[43] *See* World View of Global Warming, *Glaciers and Glacial Warming: Receding Glaciers* (2006), http://www.worldviewofglobalwarming.org/pages/glaciers.html) (see photos and discussion of Greenland Glacier); NASA, *Arctic Sea Ice Continues to Decline, Arctic Temperatures Continue to Rise in 2005* (Sept. 28, 2005), http://www.nasa.gov/centers/goddard/news/topstory/2005/arcticice_decline.html) (showing declines in Arctic ice fields with images of sea ice minimums in 1979 and 2005).

[44] IPCC, *Synthesis Report 2001, supra,* at 6.

[45] *Id.*

concerning the rapid melting of polar ice fields suggest that this estimate may be too conservative.[46]

Sea level rise is among the most costly and certain consequences of greenhouse gas pollution.[47] In addition to endangering people and destroying property, it places low-lying coastal ecosystems, and the wildlife that inhabits them, in considerable jeopardy.[48] These vulnerable ecosystems support commercial and recreational fishing and tourism and provide incalculable aesthetic benefits.[49]

Rising seawater harms coastal ecosystems in a variety of ways. Salt marshes and other shallow habitats adapted to saltwater environments are overwhelmed by the increasing depth of the water and the loss of sunlight, oxygen and nutrient flows.[50] Seawater is toxic to brackish water species, and brackish water is toxic to freshwater species. Rising sea levels will disturb the delicate balance between aquatic species and the sunlight, oxygen, nutrients and salinity in their habitats, especially in areas where ecosystems are unable to migrate inland because of human development.[51] Sea level rise *alone* is projected to destroy 20 percent of coastal wetlands around the globe by 2080.[52]

This destruction of coastal wetlands will likely have devastating effects on commercial and recreational fishing around the world. For example, along Florida's gradually-sloped shores, a 15 inch rise in sea level would cause water to advance inland by about 250 feet, eroding coastal

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[46] *See* Flannary, *supra*, at 146-50; Julian A. Dowdeswell, *The Greenland Ice Sheet and Global Sea-Level Rise*, 311 Sci. 963-64 (2006).

[47] *See* Inkley *et al.*, *supra*, at 7.

[48] *Id.*

[49] *See infra* Part III.

[50] Sam H. Pearsall, *Managing for Future Change on the Albermarle Sound*, *in* Lovejoy & Hannah, *supra*, at 359.

[51] *See id.*

[52] Gitay, *IPCC Technical Paper V*, *supra*, at 1.

shorelines and inundating and altering wetlands, saltmarshes and other habitats. In fact, nearly 50 percent of critical saltmarsh and 84 percent of tidal flats could be lost. Because Florida's marine fish and shellfish species depend on saltmarshes, seagrass beds and other bay and estuary habitats, the projected sea level rise could devastate Florida's commercial and recreational fisheries.[53]

Exacerbating the problem of sea level rise is the increased intensity of hurricanes and typhoons. During the past few decades of steadily increasing surface temperatures, the number of category 4 and 5 hurricanes and typhoons recorded around the globe has almost doubled, and the total amount of energy released by hurricanes and typhoons has increased by 60 percent.[54] The combined effects of sea level rise and storm surges from hurricanes and typhoons is expected to wreak havoc on low-lying coastal habitats and could even result in saltwater intrusion into freshwater aquifers, which supply drinking water for many communities.[55]

The climate change impacts of sea level rise and storm surges will worsen the damage already being caused by a host of non-climate-related human activities. For example, groundwater withdrawal, levee construction and dredging projects in river systems have reduced sediment accumulation in river deltas, leading to flooding and loss of land.[56] Sea level rise and storm surges fueled by climate change make flooding worse and greatly increase land loss.

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[53] National Wildlife Fed'n *et al.*, *An Unfavorable Tide: Global Warming, Coastal Habitats and Sportfishing in Florida* 4, 6 (2006).

[54] P.J. Webster *et al.*, *Changes in Tropical Cyclone Number, Duration and Intensity in a Warming Environment*, 309 Sci. 1844 (2005); Kerry Emanuel, *Increasing Destructiveness of Tropical Cyclones Over the Past 30 Years*, 436 Nature 686 (2005).

[55] Gitay, *IPCC Technical Paper V*, *supra*, at 20.

[56] *Id.*

This is exactly what has occurred in the Mississippi River delta, where alterations of the Mississippi River combined with sea level rise to convert nearly one million acres of coastal marshes to open water in the latter half of the 20th century.[57] These losses worsened dramatically when Hurricane Katrina roared through the Mississippi delta in 2005, destroying what once was a 40-mile-long set of barrier islands.[58]

By destroying coastal marshes, sea level rise and intensified hurricanes and typhoons threaten time-honored recreational activities such as waterfowl hunting and wildlife viewing. Waterfowl species threatened by destruction of coastal marshes include redheads, lesser scaup and canvasbacks.[59]

C. Disappearing Permafrost, Sea Ice and Snow Jeopardize Wildlife and Ecosystems

Any discussion of disappearing snow and ice must begin with the Arctic region, which is among the fastest-warming regions on the planet. The average annual temperature in the Arctic has risen at nearly twice the rate as the rest of the world, with the greatest increase occurring in winter months.[60] As a result, permafrost is thawing, with tundra habitat rapidly disappearing and giving way to lakes, wetlands, trees and shrubs.[61] Some of these areas are expected to ultimately turn into cold

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[57] Virginia Burkett & Jon Kusler, *Climate Change: Potential Impacts and Interactions in Wetlands of the United States*, 36 J. of the Am. Water Res. Ass'n 313-20 (2000).

[58] *See* Flannery, *supra*, at 313; *see also infra* Part II.G.

[59] U.S. Fish & Wildlife Serv., *North American Waterfowl Management Plan, Gulf Coast Joint Venture: Texas Mid-Coast Initiative* (2002).

[60] Susan Joy Hassol *et al.*, Arctic Climate Impact Assessment, *Impacts of a Warming Arctic* 19, 22 (2004).

[61] *Id.* at 48.

deserts because soil types are not suitable for holding water on the land.[62]

The tundra has served as major breeding and nesting grounds for a variety of migratory waterfowl as well as habitat for species, such as caribou, important to indigenous people's diets.[63] With the loss of tundra habitat, wildlife enthusiasts in the continental U.S. and indigenous people in the Arctic all suffer.[64]

Sea ice also is rapidly disappearing from the Arctic. In the past three decades, sea ice thickness in the late summer and early autumn has decreased by 40 percent.[65] If this melting continues as projected, it will have dire consequences for Arctic wildlife and the indigenous people who rely upon this wildlife for their survival. An early sign of the possible future is found in James and Hudson Bays in Canada, where polar bears suffered 15 percent declines in average weight and in number of cubs born in a recent 15-year period.[66] Because polar bears are dependent on sea ice for hunting, and because periods without sea ice have increased, these bears are going longer without feeding, and as a result suffering declines in reproduction and overall health. Polar bears are "unlikely" to survive the end of this century if, as some climate models predict, summer sea-ice cover completely disappears from their habitats.[67] The prospects for a number of other Arctic species, such as the walrus, ivory gulls, little auks and

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[62] *Id.* at 49.

[63] Gitay, *IPCC Technical Paper V*, *supra*, at 32.

[64] In addition to serving as important wildlife habitat, tundra is also a significant carbon reservoir. When permafrost thaws, this carbon is released to the atmosphere and climate change accelerates further. Sergey A. Zimov *et al.*, *Permafrost and the Global Carbon Budget*, 312 Sci. 1613 (2006).

[65] Gitay, *IPCC Technical Paper V*, *supra*, at 29.

[66] Hassol *et al. supra*, at 58.

[67] *Id.*

several species of seals, are equally bleak if the sea ice continues to melt as forecasted under current warming trends.[68] Thus, the recent decline of the polar bear could mark the beginning of the collapse of the entire Arctic ecosystem.[69]

Disappearance of snow could have even more far-reaching effects than disappearance of sea ice. On average, snow cover has decreased by 10 percent in the Northern Hemisphere in the past four decades.[70] There has also been a widespread retreat of glaciers across the globe.[71] In the western United States and many other places, snow provides the primary means of storage of winter precipitation, effectively transferring water from the relatively wet winters to the typically dry summers.[72] Since the middle of last century, much of the West has experienced declines in spring snowpack, despite increases in winter precipitation in many places. Earlier spring peak flows and lower summer flows have become increasingly common.[73]

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[68] *Id.* at 58-59.

[69] *See* Flannery, *supra*, at 102.

[70] Gitay, *IPCC Technical Paper V*, *supra*, at 6.

[71] *Id. See also World View of Global Warming* (2006), http://www.worldviewofglobalwarming.org/pages/glaciers.html (see photos and discussion of numerous glaciers); U.S. Geological Serv., *Repeat Photography Project, Glacier National Park, MT, available at* http://nrmsc.usgs.gov/repeatphoto/download_info.htm (website last modified Mar. 15, 2006) (showing side-by-side photographs taken over the last century of numerous glaciers in Glacier National Park); NASA, *Visible Earth, A Catalog of NASA Images and Animations of Our Home Planet, available at* http://visibleearth.nasa.gov/view_rec.php?id=1586 (database updated June 8, 2006) (showing image of the Larsen Ice Shelf in Antarctica and explaining that it is splintering as a result of warmer temperatures).

[72] *Impacts of Climate Change: Hearing Before the Senate Comm. on Commerce, Sci. & Transp.*, 108th Cong. (2004) (testimony of Dr. Phillip W. Mote).

[73] *Id.*

For the many people whose lives are tied to the health of the nation's trout and salmon-bearing rivers and streams, these changes are worrisome. Many rivers and streams already have unnaturally high temperatures and low flows due to activities such as dam-building, riparian land conversion and irrigation.[74] Earlier spring peak flows and lower summer flows exacerbate these problems by, among other things, making it more difficult for adult fish to navigate upstream to spawn.[75] In addition, lower-than-normal flows in the summer reduce the number of cool, deep water pools that fish need to survive excessive heat.[76] If reduced summer flows and other factors significantly increase average summer water temperatures as forecasted, this could render uninhabitable much of the remaining stream habitat of the nation's trout and salmon species.[77]

A wide variety of habitats, ranging from the polar bear's sea ice hunting grounds to the rivers and streams inhabited by trout and salmon, are at great risk due to global climate change and the resulting melting of ice and snow. The disappearance of polar bears, caribou, wild trout and salmon, and other ice- or snow-dependent flora and fauna will seriously harm the indigenous people of Alaska,

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[74] *See, e.g.*, James Kardouni & Nicoleta Cristea, *Quality Assurance Project Plan. Snoqualmie River Temperature Total Maximum Daily Load*, Wash. Dep't of Ecology, Pub. No. 06-03-106 (July 2006) at 12-13 (spawning area for threatened fall Chinook salmon is listed as impaired under Clean Water Act § 303(d) due to excessive temperature).

[75] Brian C. Spence *et al.*, ManTech Env. Research Serv., *An Ecosystem Approach to Salmonid Conservation*, TR-4501-96-6057 (1996).

[76] Joseph Ebersole *et al.*, *Thermal Heterogeneity, Stream Channel Morphology and Salmonid Abundance in Northeast Oregon Streams*, 60 Can. J. of Fisheries & Aquatic Sci. 1266-80 (2003).

[77] *See* Kirkman O'Neal, Defenders of Wildlife & Natural Res. Def. Council, *Effects of Global Warming on Trout and Salmon in U.S. Streams* (2002); Pew Ctr. on Global Climate Change, *Aquatic Ecosystems and Global Climate Change* 7-9 (2002).

the commercial and recreational fishermen of the continental U.S., and the many other people who rely upon these resources for their livelihoods and quality of life.

D. Invasive Species, Pathogens and Pests Are an Increasing Threat to Wildlife Due to Climate Change

Invasive species, pathogens and pests are all projected to increase as greenhouse gas pollution increases and associated warming trends continue, and each is expected to increase the vulnerability of native wildlife and ecosystems.[78] Invasive species are projected to become increasingly prevalent through two pathways: colonization of vegetation communities that have suffered dieback as a result of new temperature and precipitation conditions, and poleward and upslope expansion.[79] An example of an invasive species using the latter approach to benefit from climate change is the Chinese tallow, a freeze-intolerant tree species which is rapidly expanding in the Gulf Coast states and which can be expected to move northward as freeze-free zones expand.[80]

Similarly, tropical and subtropical diseases are projected to move poleward or upslope as higher latitude and higher elevation habitats become increasingly warm and moist.[81] For example, mosquito-borne diseases have expanded in recent decades in concert with the steady rise

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[78] *See* Inkley *et al.*, *supra*, at 8; Gitay, *IPCC Technical Paper V*, *supra*, at 32.

[79] Erika Zavaleta & Jennifer L. Royval, *Climate Change and the Susceptibility of U.S. Ecosystems to Biological Invasions: Two Cases of Expected Range Expansion in Wildlife Responses to Climate Change* 277 (Stephen H. Schneider & Terry L. Root eds. 2002).

[80] Inkley *et al.*, *supra*, at 8.

[81] *See id.* at 9.

in annual temperatures in the highlands of Asia, East Africa and Latin America.[82]

Warmer temperatures also are a significant factor in the growing incidence, range and severity of marine and estuarine diseases. When water temperatures exceed an optimal threshold, some marine and estuarine species become stressed and more susceptible to disease.[83] For example, as a result of warmer conditions in the Gulf of Mexico and along the east coast of the United States, the Eastern oyster has suffered an increased prevalence and intensity of diseases.[84] Economic impacts include reduced shellfish harvests and recreational fishing and declining sales in the tourism, fishing and restaurant trade.[85]

Climate-change-related disease also is playing a role in the wave of amphibian extinctions now taking place around the globe. Up to 22 of the world's amphibian species have become extinct since just 1980 and roughly one-third are currently threatened with extinction. One of the leading threats, a disease known as chytridiomycosis, is linked directly to climate change because warming creates the conditions ideal for its persistence and spread.[86] Amphibians have great potential for assisting researchers in the fields of biotechnology and medicine. If not addressed, climate change would not only potentially drive many amphibian species to extinction, but also

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[82] Walther *et al.*, *Ecological Responses to Recent Climate Change*, *supra*, at 391.

[83] C.D. Harvell *et al.*, *Emerging Marine Diseases – Climate Links and Anthropogenic Factors*, 285 Sci. 1507 (1999).

[84] P.R. Epstein, Center for Health & the Global Envt., Harvard Med. Sch., *Marine Ecosystems: Emerging Diseases as Indicators of Change* (1998).

[85] Center for Health and the Global Envt., Harvard Med. Sch., *Climate Change Futures Health, Ecological and Economic Dimensions* 83 (2005) [hereinafter *Climate Change Futures*].

[86] Joseph R. Mendelson III *et al.*, *Confronting Amphibian Declines and Extinctions*, 313 Sci. 48 (2006).

reduce researchers' chances of finding cures for cancer and other human diseases.

An increased frequency of pest outbreaks, especially in forest ecosystems, is also linked to climate change.[87] For example, in some high elevation areas in the southwestern United States, more than 90 percent of the piñon pine forest has died due to infestations of the bark beetle. Recent drought conditions, corresponding with regional warming trends, have made the trees much more susceptible to such infestations. If warming trends in the Southwest continue as projected, such forest die-offs will be more severe and extensive in the future.[88]

Climate-change-related pest infestations threaten to impose losses on a wide range of industries, including tourism (due to reduced scenic quality and recreational opportunities), food (due to loss of citrus and maple trees), and real estate development (due to increased vulnerability of forests to fires, erosion and landslides).[89]

E. Changes in Precipitation and Humidity Threaten Wildlife and Ecosystems

Climate change has led to severe reductions in precipitation and humidity in a number of regions around the world. For example, the western U.S. is now drier than at any other time in 700 years. Increased temperatures in the Pacific Ocean have shifted the jet stream (a wind current that affects snow and rain in North America) northward, leaving much of the western U.S. in severe drought.[90] These conditions pose a severe risk to wildlife

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[87] Gitay, *IPCC Technical Paper V*, *supra*, at 32.

[88] David D. Breshears *et al.*, *Regional Vegetation Die-off in Response to Global-Change-Type Drought*, 102 Proceedings of the Nat'l Academy of Sciences (Oct. 18, 2005), at 15144-48.

[89] *Id.*

[90] *See* Flannery, *supra*, at 132. Some experts believe that climate change is having a permanent impact on the El Niño-La Niña cycle of

(Continued on following page)

and ecosystems, especially due to fire. In the 1987-2003 time period, Western forests experienced a four-fold increase in numbers of large fires, and a seven-fold increase in federal land acres burned, compared to the previous 17-year period.[91] Although some fire is beneficial to the forest ecosystems of the western U.S., larger, more intense and more frequent wildfires caused by severe drought conditions threaten nearby homesteads, destroy old-growth forests, cause erosion and pose a host of other problems for endangered wildlife.[92]

Increased ocean temperatures have also caused drying of tropical rainforests. The "first documented victim of global warming," the golden toad, was driven extinct in the 1980s by the decline of moisture in its Costa Rican rainforest habitat, which was in turn caused by the abrupt rise in sea surface temperatures in the central western Pacific.[93] The golden toad evolved in a specific habitat niche with a specific level of humidity. Once that humidity disappeared, the species was doomed.

F. Increased Water Temperatures and Acidification Jeopardize Ocean Wildlife and Ecosystems

There is strong evidence that two features of greenhouse gas pollution – warmer temperatures and acidification (caused by absorption of carbon dioxide into water) – are harming ocean wildlife and ecosystems.

One of the most visible effects of warming of ocean waters is bleaching of coral reefs. Coral reefs have

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climate events that, among other things, determines the position of the jet stream. *Id.* at 84.

[91] A.L. Westerling *et al.*, *Warming and Earlier Spring Increases Western U.S. Forest Wildfire Activity*, 313 Sci. 940, 941 (2006).

[92] *See* Donald McKenzie *et al.*, *Climate Change, Wildfire, and Conservation*, 18 Conservation Biology 890 (2004).

[93] Flannery, *supra*, at 118.

sometimes been referred to as the "rain forests of the ocean" due to their diversity of life forms and spectacular beauty.[94] Bleaching occurs when the algae which lives symbiotically with the coral has died. Although coral can sometimes recover from bleaching, repeated and lengthy bleaching events with subsequent coral die-offs have occurred around the world in recent decades, and scientists have pinpointed the cause: ocean warming and intense El Niño events.[95] Scientists project that a majority of coral reefs around the world are likely to face extensive coral bleaching within the next 20 to 40 years if climate change continues unabated.[96]

Rising ocean temperatures are also causing significant changes in the marine food web in many regions. Plankton, organisms that form the base of the marine food web, rely upon nutrient-rich waters from the ocean depths as their primary food source. However, since 1977, warm water events have become increasingly frequent along the Pacific coast of the United States and, as a result, upwelling of deep, nutrient-rich waters has decreased. This has caused plankton to decline and has put virtually every marine species at risk, from the fish and invertebrates that eat the plankton to the seabirds and mammals that eat the fish. In less than 30 years, zooplankton in the region has declined 70 percent, fish larvae 50 percent and

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[94] Marjorie L. Reaka-Kudla, *The Global Biodiversity of Coral Reefs: A Comparison with Rain Forests, in Biodiversity II: Understanding and Protecting Our Biological Resources*, Chapter 7 (Marjorie L. Reaka-Kudla et al., eds., 1997).

[95] R.W. Buddemeier *et al.*, Pew Ctr. on Global Climate Change, *Coral Reefs & Global Climate Change: Potential Contributions of Climate Change to Stresses on Coral Reef Ecosystems* 15 (2004). *See also* note 90.

[96] Simon D. Donner *et al.*, *Global Assessment of Coral Bleaching and Required Rates of Adaptation Under Climate Change*, 11 Global Change Biology 2251 (2005).

seabirds 30 percent.[97] If current trends in ocean warming continue, the vast commercial fishing industry could suffer extensive losses, jeopardizing the regional economy and a significant part of the nation's food supply.

Rising atmospheric concentrations of carbon dioxide are also increasing the acidity of the world's oceans. As a result of the increased acidity, numerous marine organisms are less able to absorb key minerals, such as calcium, that make up their skeletal structures.[98] This poses serious risks to many of the ocean's ecological systems. For example, acidification could lead to the collapse of coral reef ecosystems, which would have devastating impacts on people and businesses in south Florida, the Caribbean and other tropical regions.

III. CONSERVING ABUNDANT WILDLIFE AND HEALTHY ECOSYSTEMS IS ESSENTIAL TO THE NATION'S ECONOMY AND QUALITY OF LIFE

A. Hunting, Fishing and Other Wildlife-Oriented Activities Help Fuel a Large Part of the Economy

The EPA's refusal to limit greenhouse gas pollution under the Clean Air Act has enormous detrimental consequences for people in the United States and around the world. As discussed *supra,* those who hunt, fish and otherwise enjoy wildlife-oriented recreation, and the many

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[97] John A. McGowan *et al.*, *The Biological Response to the 1977 Regime Shift in the California Current*, 50 Deep-Sea Research II 2567-82 (2003). Zooplankton, tiny ocean animals that drift along with ocean currents, are among the several types of plankton.

[98] Joan A. Kleypas *et al.*, NSF, NOAA & USGS, *Impacts of Ocean Acidification on Coral Reefs and Other Marine Calcifiers: A Guide for Future Research*, Report of a Workshop on April 18-20, 2005, Sponsored by NSF, NOAA & USGS 1 (2006).

businesses that serve them, are directly and immediately affected.

A recent study by the Outdoor Industry Foundation shows what a crucial role these individuals and businesses play in the U.S. economy. According to the study, active outdoor recreation, which includes camping, fishing, hunting, paddling, hiking and wildlife viewing, contributes a total of $730 billion annually to the U.S. economy, supports 6.5 million jobs (1 in 20 U.S. jobs), generates $88 billion in federal and state tax revenue and stimulates 8 percent of all consumer spending.[99]

To date, no one has estimated what percentage of this economic activity would be lost under various climate change scenarios. However, studies focusing on parts of the puzzle show that losses will be dramatic if greenhouse gas pollution is not significantly reduced. For example, the EPA's own experts estimate that the potential economic losses in cold-water recreational fishing in the U.S. due to climate change will be $1.3 to $3 billion per year.[100]

Losses of wildlife-oriented recreational opportunities are typically intertwined with a host of other economic losses projected to flow from climate change. For example,

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[99] Outdoor Industry Found., *The Active Outdoor Recreation Economy* (2006). The study also includes within its definition of active outdoor recreation snow sports and bicycling, which arguably are not directly dependent on abundant wildlife and healthy ecosystems. If these activities are removed from the study's statistics, the impact of wildlife-oriented recreation would still be quite sizable: $531 billion annually added to the economy, supporting 4.8 million jobs, and generating $61 billion in federal and state tax revenue. *Id.* at 19. *See also* U.S. Fish & Wildlife Serv., *National Survey of Fishing, Hunting, and Wildlife-Associated Recreation* (2001) (more than 82 million U.S. residents fished, hunted, or viewed wildlife in 2001; spending on these three activities totaled $108 billion).

[100] Susan Herrod Julius, U.S. EPA Global Change Research Program, *What Are the Potential Impacts of Climate Change on Fresh Water Recreational Fishing Opportunities in the U.S.?* Presentation to the Water Ecology and Climate Change Workshop (June 15, 2001).

as noted *supra*, climate change is projected to have devastating impacts on coral reefs around the world. Healthy reef ecosystems support a commercial and recreational fishing industry worth billions of dollars, and some developing countries rely on reef fisheries for virtually all of their animal protein consumption. Reefs protect coasts by reducing storm damage and erosion due to intense wave action, and many regions depend on reefs for their tourism industries. Studies in the Indian Ocean region show that a single catastrophic episode of coral reef bleaching would cost up to $18 billion to the region's economy.[101]

Losses would likely be much larger for communities and businesses dependent on the reefs in south Florida and the Caribbean, where coastal development and tourism is much more extensive. For example, the total value of reef-related shoreline protective services in the Caribbean region alone has been estimated to be between $740 million and $2.2 billion per year,[102] and the reefs of the Florida Keys alone generated $4.4 billion in tourism revenues in 2000-01. Climate change has placed this wildlife treasure and economic engine in serious jeopardy.[103]

B. Healthy Ecosystems Provide Services that Sustain the Economy

Conserving wildlife and ecosystems has many economic benefits to people beyond those that are quantified in the marketplace. Ecosystems perform fundamental life-support services without which human civilizations would

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[101] *Climate Change Futures*, *supra*, at 81.

[102] *Id.* at 77.

[103] Daniel Scott *et al.*, *Climate Change and Tourism and Recreation in North America: Exploring Regional Risks and Opportunities*, *in Tourism, Recreation and Climate Change* 126 (C. M. Hall & J. Higham eds., 2005).

cease to thrive.[104] These include the purification of air and water, detoxification and decomposition of wastes, regulation of climate, regeneration of soil fertility and production and maintenance of biodiversity.[105]

Agricultural, pharmaceutical, commercial fishing and numerous other industries that harvest natural resources sectors depend on healthy ecosystems. For these industries, which represent large portions of the economy, there is significant potential for disruption of current harvesting practices and livelihoods under climate change scenarios.[106]

Fish is the leading source of animal protein for the world's population, with the annual catch valued between $50 billion and $100 billion.[107] Significant harvest reductions in the commercial fishing industry (valued at $8.2 billion in 1990) would have enormous consequences. Likewise, if climate change were to force substantial reductions in recreational fishing, this too would harm many people and businesses. The value of freshwater sport fishing in the U.S. alone greatly exceeds that of the global commercial harvest, with direct expenditures in 1991

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[104] Gretchen C. Daily *et al., Ecosystem Services: Benefits Supplied to Human Societies by Natural Ecosystems*, 2 Issues in Ecology 1 (1997).

[105] An extensive body of literature has evolved around the measurement of the value of such "ecosystem services." *See, e.g.*, James Boyd & Spencer Banzhaf, Resources for the Future, *What Are Ecosystem Services? The Need for Standardized Environmental Accounting Units* (2006); James Salzman, *Creating Markets for Ecosystem Services: Notes from the Field*, 80 N.Y.U. L. Rev. 870, 871-72 (2005); Gretchen C. Daily, *Introduction: What Are Ecosystem Services?, in Nature's Services: Societal Dependence on Natural Ecosystems* 1, 3-4 (Gretchen C. Daily ed., 1997).

[106] Jay R. Malcolm & Louis F. Pitelka, Pew Ctr. on Global Climate Change, *Ecosystems & Global Climate Change: A Review of the Potential Impacts on U.S. Terrestrial Ecosystems and Biodiversity* 29 (2000).

[107] Daily *et al., supra*, at 4.

totaling roughly $16 billion. Once the value of sport fishing-related jobs is added in, the total increases to $46 billion.[108]

A significant reduction in the ability of the pharmaceutical industry to harvest wild plants for research would also have large negative consequences. Of the top 150 prescription drugs used in the United States, 118 are derived in whole or in part from plants and other natural sources. Nine of the top ten drugs are based on natural plant products. The commercial value of pharmaceuticals in the developed nations exceeds $40 billion per year.[109]

The agricultural sector also has much to lose if climate change scenarios unfold as projected and wildlife declines. One third of human food is derived from plants pollinated by wild pollinators. If birds, bats, butterflies and other natural pollinators decline due to climate change, yields of important crops would likewise decline. In the United States alone, the value to the agricultural industry of native pollinators sustained by natural habitats is estimated in the billions of dollars per year.[110]

The agricultural industry is also heavily dependent on abundant wildlife and healthy ecosystems for pest control. Roughly 99 percent of potential crop pests are controlled by natural enemies such as birds and spiders. Wildlife species save farmers billions of dollars annually by protecting crops and reducing the need for chemical control.[111]

Although the exact economic values of the natural resources threatened by climate change are difficult to calculate, there is no question that EPA's inaction on

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[108] *Id.*

[109] *Id.* at 6. Loss of wild plants would reverberate well beyond the pharmaceutical industry. Approximately 80 percent of the world's population relies on traditional medical systems, which heavily utilize extracts from wild plants. *Id.*

[110] *Id.* at 10.

[111] *Id.* at 10-11.

climate change directly affects the livelihoods and quality of life of many people.

C. Abundant Wildlife and Healthy Ecosystems Are an Essential Part of America's Heritage

What is ultimately at stake in this case is America's heritage, and whether the legacy of abundant wildlife and natural beauty that has been bequeathed to the current generation will be passed to the next. It has been said that destruction of natural habitats and the consequent loss of genetic and species diversity is the "folly our descendants are least likely to forgive us."[112] If action on climate change is taken with the urgency that it so obviously deserves, it may be the action for which our children and grandchildren are most likely to thank us.

CONCLUSION

The judgment of the Court of Appeals should be reversed.

Respectfully Submitted,

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[112] Edward O. Wilson, *Biophilia* 121 (1984).

APPENDIX

WILDLIFE CONSERVATION INTERESTS SUBMITTING AMICUS CURIAE BRIEF ON BEHALF OF PETITIONERS

Sporting and Conservation Organizations

American Whitewater
Arizona Council of Trout Unlimited
Arizona Wildlife Federation
Arkansas Wildlife Federation
Association of Northwest Steelheaders
Center for Environmental Law and Policy
Citizens Progressive Alliance
Colorado Wildlife Federation
Connecticut Forest and Park Association
Connecticut Outdoor and Environmental Education Association
Conservation Council for Hawaii
Conservation Federation of Missouri
Defenders of Wildlife
Delaware Nature Society
Environment Council of Rhode Island
Environmental League of Massachusetts
Florida Wildlife Federation
Georgia Wildlife Federation
Greenspace – The Cambria Land Trust
Idaho Rivers United
Idaho Wildlife Federation
Indiana Wildlife Federation
Iowa Wildlife Federation
Izaak Walton League
Kansas Wildlife Federation
League of Kentucky Sportsmen
League of Ohio Sportsmen
Louisiana Wildlife Federation
Miami Rod and Reel Club
Michigan United Conservation Clubs
Minnesota Conservation Federation

Montana Wildlife Federation
Mountaineers
National Audubon Society
National Wildlife Federation
Natural Heritage Land Trust
Natural Resources Council of Maine
Nebraska Wildlife Federation
Nevada Wildlife Federation
New Mexico Wildlife Federation
North Dakota Wildlife Federation
North Carolina Wildlife Federation
Oklahoma Wildlife Federation
Oregon Anglers Research Society
Oregon Council Trout Unlimited
Ornithological Society of Puerto Rico
Pacific Rivers Council
Planning and Conservation League
Polar Oceans Research Group
Prairie Rivers Network
Riveredge Nature Center and Bird Club
Riverkeepers of Fargo-Moorhead
Sandhills Rod and Gun Club
Save Our Wild Salmon
Save The River
South Carolina Wildlife Federation
South Dakota Wildlife Federation
Sustainable Obtainable Solutions
Tennessee Wildlife Federation
Texas Committee on Natural Resources
Vermont Natural Resources Council
Virgin Islands Conservation Society
Virginia Conservation Network
Washington Wildlife Federation
West Virginia Wildlife Federation
Wisconsin Wildlife Federation
Wyoming Wildlife Federation

Zoos and Aquariums

Association of Zoos and Aquariums

Religious Organizations

Earth Ministry

Wisconsin Council of Churches

Departments of State Government

California Department of Fish and Game

Washington Department of Fish and Wildlife

Professional Societies

American Fisheries Society

Ohio Chapter of American Fisheries Society

The Wildlife Society